ioLogik E1200 Series User's Manual

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www.moxa.com/product

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ioLogik E1200 Series User's Manual

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Chapter 2.3	Jumper Settings (DIO and AI)
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1

Introduction

The ioLogik E1200 Series of industrial Ethernet remote I/O has two embedded Ethernet switch ports that allow information to flow to another local Ethernet device or be daisy chained to another ioLogik. Applications such as factory automation, security and surveillance systems, and tunnel monitoring can make use of daisy chained Ethernet for building multi-drop I/O networks over standard Ethernet cables. Many industrial automation users are familiar with the multi-drop configuration typically used in fieldbus applications. The Ethernet daisy chaining feature of the ioLogik E1200 not only increases connections between machines and panels, but also lowers the cost of buying separate Ethernet switches while further reducing labor fees and cabling by a large percentage. For example, if a production facility contains 700 stations (20 points per station), the wiring cost reduction can reach 15% of the total implementation cost.

The following topics are covered in this chapter:

- **Product Model Information**
- **Product Features**
- **Inside the Box**
- **Product Highlights**
- **Product Specifications**
- **Physical Dimensions**
- **Hardware Reference**
  - Panel Guide
  - LED Indicators
- **I/O Circuit Diagram**
  - DI Circuit Diagram
  - DIO Diagram
  - DI&Relay Circuit Diagram

Product Model Information

Model	Description
ioLogik E1210	Remote Ethernet I/O with 2-port Ethernet switch and 16 DIs
ioLogik E1211	Remote Ethernet I/O with 2-port Ethernet switch and 16 DOs
ioLogik E1212	Remote Ethernet I/O with 2-port Ethernet switch, 8 DIs, and 8 DIOs
ioLogik E1214	Remote Ethernet I/O with 2-port Ethernet switch, 6 DIs, and 6 relays
ioLogik E1240	Remote Ethernet I/O with 2-port Ethernet switch and 8 AIs
ioLogik E1241	Remote Ethernet I/O with 2-port Ethernet switch and 4 AOs
ioLogik E1242	Remote Ethernet I/O with 2-port Ethernet switch and 4 AIs, 4DIs, and 4DIOs
ioLogik E1260	Remote Ethernet I/O with 2-port Ethernet switch and 6 RTDs
ioLogik E1262	Remote Ethernet I/O with 2-port Ethernet switch and 8 TCs
ioLogik E1210-T	Ethernet remote I/O with 2-port Ethernet switch and 16 DIs, -40 to 75°C operating temperature
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ioLogik E1212-T	Ethernet remote I/O with 2-port Ethernet switch, 8 DIs, and 8 DIOs, -40 to 75°C operating temperature
ioLogik E1214-T	Ethernet remote I/O with 2-port Ethernet switch, 6 DIs, and 6 Relays, -40 to 75°C operating temperature
ioLogik E1240-T	Ethernet remote I/O with 2-port Ethernet switch and 8 AIs, -40 to 75°C operating temperature
ioLogik E1241-T	Ethernet remote I/O with 2-port Ethernet switch and 4 AOs , -40 to 75°C operating temperature
ioLogik E1242-T	Ethernet remote I/O with 2-port Ethernet switch, 4 AIs, 4 DIs, and 4 DIOs, -40 to 75°C operating temperature
ioLogik E1260-T	Ethernet remote I/O with 2-port Ethernet switch and 6 RTDs, -40 to 75°C operating temperature
ioLogik E1262-T	Ethernet remote I/O with 2-port Ethernet switch and 8 TCs, -40 to 75°C operating temperature

Product Features

- Built-in 2-port Ethernet switch for daisy chain topologies
- Free support for Moxa's push-based Active OPC Server
- User-defined Modbus/TCP addressing
- MXIO library for Windows/WinCE/VB/VC.NET and Linux C
- Web-based configuration with import/export capabilities
- Peer-to-peer I/O communication over Ethernet

Inside the Box

The ioLogik E1200 is shipped with the following items:

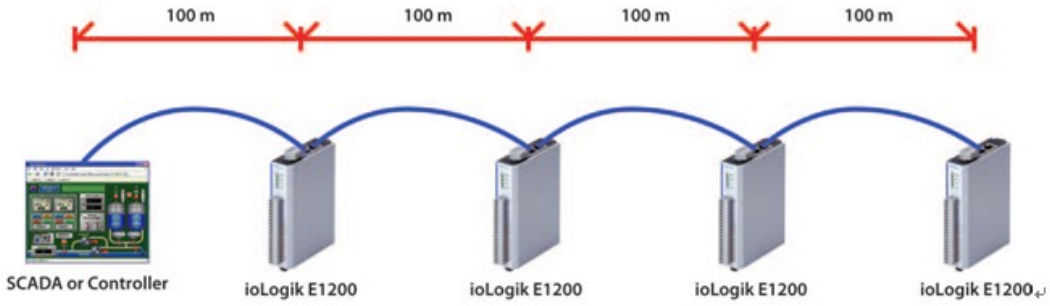
- ioLogik E1200 Remote Ethernet I/O Server.
- Document and Software CD.
- Quick Installation Guide.

NOTE: Notify your sales representative if any of the above items are missing or damaged.

Product Highlights

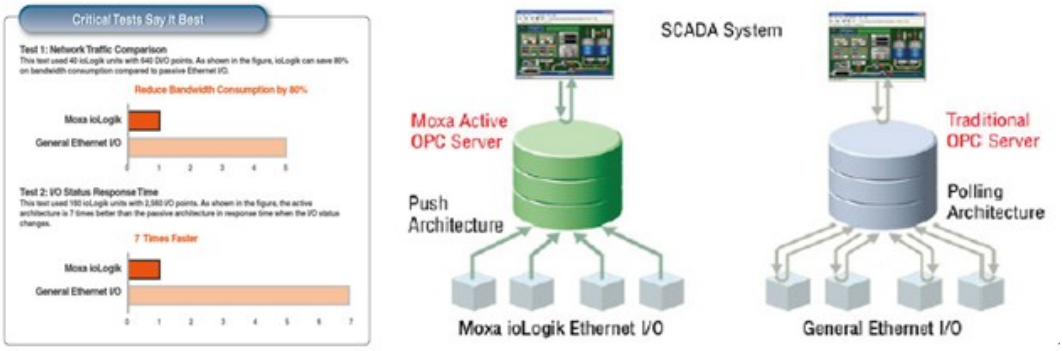
Built-in 2-port Ethernet switch for daisy chain topologies

Thanks to its two embedded Ethernet switch ports, the ioLogik E1200 remote Ethernet I/O allows you to create daisy chain topologies for easy cabling. In distributed Ethernet data acquisition applications, panels, units, and cabinets are often located at remote sites where space is limited. The daisy chain capability of the ioLogik E1200 series allows ioLogik E1200 units to connect in series either to each other or to other nearby Ethernet devices, drastically saving on both space and wiring costs.



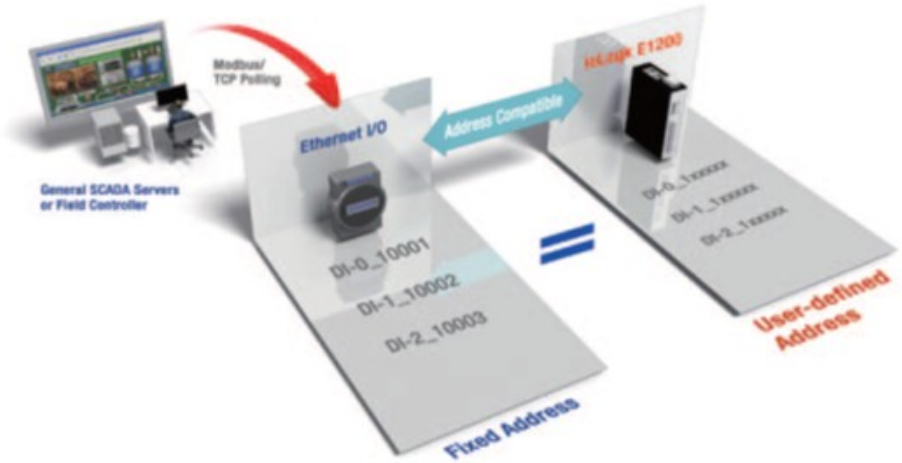
Free support for Moxa's push-based Active OPC Server

Active OPC Server is a free software package provided by MOXA as an OPC driver for HMI/SCADA systems. Active OPC Server helps networks achieve faster response times by reducing bandwidth usage. Conventional OPC servers typically use a polling method to communicate with Ethernet I/O devices, continuously sending commands to collect relevant data. MOXA's Active OPC Server instead uses "push" communication initiated by Moxa's remote I/O devices, enabling them to provide your HMI/SCADA system with instant I/O status reports via **"Active Tags,"** thus using less bandwidth than is the case with traditional polling methods.



User-defined Modbus/TCP addressing

For Modbus devices that are controlled and detected by fixed addresses, users need to spend a vast amount of time researching and verifying the configurations. Users need to locate details for each device--such as the I/O channel and vendor-defined modbus addresses--to enable the initial address or the start address of a SCADA system or PLC. The ioLogik E1200, with user-definable Modbus/TCP addressing, offers greater flexibility, and setup is easy. Instead of worrying over pre-defined addresses, users simply configure the function and address map to fit their needs



MXIO library for Windows/WinCE/VB/VC.NET and Linux C

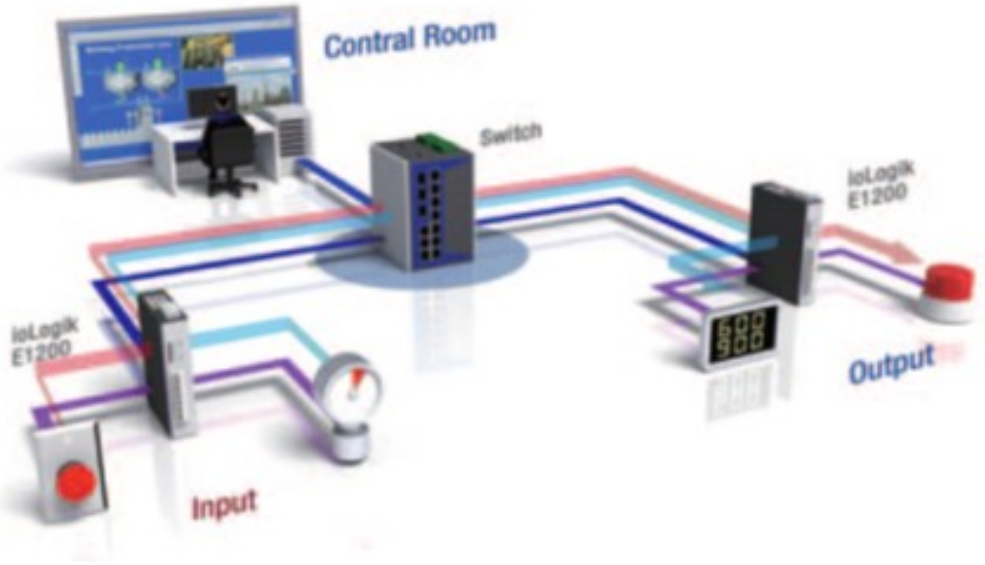
Moxa's MXIO library supports the Windows, WinCE and Linux operating system, as well as the C++, VB/VC, and .NET development platforms. The library's large repository of C# and Visual Basic sample code makes it easy to manage Ethernet I/O devices and data transfers with high-level computer languages. In addition, the MXIO library's active communication feature allows custom software developers to share in the benefits of push technology and active I/O tags, thereby reducing network traffic by as much as 80%.

Web-based configuration with import/export capabilities

The ioLogik E1200 industrial Ethernet remote I/O allows you to monitor and control I/O status from anywhere on the web via Internet Explorer, even including the import and export of configuration files.

Peer-to-peer I/O communication over Ethernet

In some remote automation implementations, the control room and sensors are located quite far away from each other, often with only a single remote I/O module. Peer-to-peer communication has little or no limitation as it replaces cable by integrating multiple I/O signals over a single network cable to transmit input-to-output controls without the aid of PLCs or controllers. Featuring peer-to-peer communications and support for channel-to-channel mapping, the ioLogik E1200 allows simultaneous multiple target transmissions. In addition, the ioLogik E1200 supports up to 16 channels for transmission over Ethernet (based on an emitter and receiver I/O pair).



Product Specifications

Common Specifications

LAN

Ethernet: 2 x 10/100 Mbps switch ports, RJ45
Protection: 1.5 KV magnetic isolation
Protocols: Modbus/TCP, TCP/IP, UDP, DHCP, Bootp, HTTP

Power Requirements

Power Input: 24 VDC nominal, 12 to 36 VDC

Physical Characteristics

Wiring: I/O cable max. 14 AWG
Dimensions: 27.8 x 124 x 84 mm (1.09 x 4.88 x 3.31 in)
Weight: under 200 g
Installation: Din-rail or wall mounting

Environmental Limits

Operating Temperature:
Standard Models: -10 to 60°C (14 to 140°F)
Wide Temp. Models:-40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Standards and Certifications

Safety: UL 508
EMI:
EN 55022
EN 61000-3-2
EN 61000-3-3
FCC Part 15 Subpart B Class A
EN 55024
EN 61000-4-2
EN 61000-4-3
EN 61000-4-4
EN 61000-4-5
EN 61000-4-6
EN 61000-4-8
EN 61000-4-11
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6
Green Product: RoHS, CRoHS, WEEE
Note: Please check Moxa's website for the most up-to-date certification status.

Warranty

Warranty Period: 5 years (excluding ioLogik E1214)
Details: See www.moxa.com/warranty
***Note:** Because of the limited lifetime of power relays, products that use this component are covered by a 2-year warranty.

I/O Common Specifications

Digital Input

Sensor Type: Wet Contact (NPN or PNP), Dry Contact

I/O Mode: DI or Event Counter

Dry Contact:

- On: short to GND
- OFF: 10 to 30 VDC

Wet Contact: (PNP, NPN, DI, GND)

- On: short to GND
- OFF: 10 to 30 VDC

Counter Frequency: 250 Hz, Power off storage

Digital Filter Time Interval:

- Software Selectable

Digital Output

Sensor Type: Sink

I/O Mode: DO or Pulse Output

Pulse Output Frequency: 500 Hz

Over-Voltage Protection: 45 VDC

Over-Current Protection:

- 2.6 A (4A Channel @ 650mA)

Over Temperature Shutdown:

- 175°C (typical), 150°C (min)

Current Rating: 200 mA per channel

Analog Input

Type: Differential

Resolution: 16 bites

I/O Mode: Voltage (V) / Current (mA)

Input Range:

- 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA

Accuracy:

- ±0.1% FSR @ 25°C
- ±0.3% FSR @ -10 and 60°C
- ±0.5% FSR @ -40 and 75°C

Sampling Rate: 12 samples/sec

Input Impedance: 10 ohms (mins)

Build-in Resistor for Current Input: 120 ohms

Analog Output

Resolution: 16 bites

Input Range:

- 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA

Voltage Output: 10 mA (max.)

Accuracy:

- ±0.1% FSR @ 25°C
- ±0.3% FSR @ -25 and 75°C

Load Resistor:

- **Internal Power:** 400 ohms
- **External 24 V Power:** 1000 ohms

Relay Output

Type: Form A (N.O.) power relay

Contact Current Rating:

- Resistive load: 5 A @ 30 VDC, 250 VAC, 100 VAC

Breakdown Voltage: 500 VAC

Initial Insulation Resistance:

- 1000 M ohms (mins.) @ 500 VDC

Pulse Output: 0.3 Hz at Rated Load

RTD Input

Input Types:

- PT50, PT100, PT200, PT500 (-200 to 850°C)
- PT1000 (-200 to 350°C)
- Resistance of 310, 620, 1250, and 2200 ohms

Sampling Rate: 12 sample/sec (all channels)

Resolution: 0.1°C or 0.1 ohm

Accuracy:

- ±0.1% FSR @ 25°C
- ±0.3% FSR @ -40 and 75°C

Input Impedance: 625K ohms (mins)

Thermocouple Input

Sensor Type:

J (0 to 750°C), K (-200 to 1250°C), T (-200 to 350°C), E (-200 to 900°C),
R (-50 to 1600°C), S (-50 to 1760°C), B (600 to 1700°C), N (-200 to 1300°C)

Millivolt Type:

Mode: ±78,126 mV, ±39,062 mV, ±19,532 mV

Fault and Over-Voltage Protection:

-35 to + 35 VDC (power off)
-25 to + 30 VDC (power on)

Sampling Rate: 12 sample/sec (all Channels)

Resolution: 16 bites

Accuracy:

- ±0.1% FSR @ 25°C
- ±0.3% FSR @ -40 and 75°C

ioLogik E1210

Inputs and Outputs

Digital Inputs: 16 channels

Isolation: 3K VDC or 2K Vrms

Digital Input

Sensor Type: Wet Contact (NPN or PNP), Dry Contact

I/O Mode: DI or Event Counter

Dry Contact:

- On: short to GND
- Off: open

Wet Contact (NPN, DI to GND):

- On: 0 to 3 VDC
- Off: 10 to 30 VDC

Wet Contact (PNP, DI to GND):

- Off: 0 to 3 VDC
- On: 10 to 30 VDC

Common Type: 8 points per COM

Isolation: 3K VDC or 2K Vrms

Counter Frequency: 250 Hz, power off storage

Digital Filtering Time Interval: Software selectable

Power Requirements

Power Consumption: 110 mA @ 24 VDC

MTBF (mean time between failures)

Time: 671,345 hrs

Database: Telcordia (Bellcore)

ioLogik E1211

Inputs and Outputs

Digital Outputs: 16 channels

Isolation: 3K VDC or 2K Vrms

Digital Output

Type: Sink

I/O Mode: DO or Pulse Output

Pulse Output Frequency: 500 Hz

Over-voltage Protection: 45 VDC

Over-current Protection: 2.6 A (4 channels @ 650 mA)

Over-temperature Shutdown: 175°C (typical), 150°C (min.)

Current Rating: 200 mA per channel

Power Requirements

Power Consumption: 208 mA @ 24 VDC

MTBF (mean time between failures)

Time: 221,662 hrs

Database: Telcordia (Bellcore)

ioLogik E1212

Inputs and Outputs

Digital Inputs: 8 channels

Configurable DIOs: 8 channels

Isolation: 3K VDC or 2K Vrms

Digital Input

Sensor Type: Wet Contact (NPN or PNP), Dry Contact

I/O Mode: DI or Event Counter

Dry Contact:

- On: short to GND
- Off: open

Wet Contact (NPN, DI to GND):

- On: 0 to 3 VDC
- Off: 10 to 30 VDC

Wet Contact (PNP, DI to GND):

- Off: 0 to 3 VDC
- On: 10 to 30 VDC

Common Type: 8 points per COM

Isolation: 3K VDC or 2K Vrms

Counter Frequency: 250 Hz, power off storage

Digital Filtering Time Interval: Software selectable

Digital Output

Type: Sink

I/O Mode: DO or Pulse Output

Pulse Output Frequency: 500 Hz

Over-voltage Protection: 45 VDC

Over-current Protection: 2.6 A (4 channels @ 650 mA)

Over-temperature Shutdown: 175°C (typical), 150°C (min.)

Current Rating: 200 mA per channel

Power Requirements

Power Consumption: 155 mA @ 24 VDC

MTBF (mean time between failures)

Time: 179,098 hrs

Database: Telcordia (Bellcore)

ioLogik E1214

Inputs and Outputs

Digital Inputs: 6 channels

Relay Outputs: 6 channels

Isolation: 3K VDC or 2K Vrms

Digital Input

Sensor Type: Wet Contact (NPN or PNP), Dry Contact

I/O Mode: DI or Event Counter

Dry Contact:

• On: short to GND

• Off: open

Wet Contact (NPN, DI to GND):

• On: 0 to 3 VDC

• Off: 10 to 30 VDC

Wet Contact (PNP, DI to GND):

• Off: 0 to 3 VDC

• On: 10 to 30 VDC

Common Type: 6 points per COM

Isolation: 3K VDC or 2K Vrms

Counter Frequency: 250 Hz, power off storage

Digital Filtering Time Interval: Software selectable

Relay Output

Type: Form A (N.O.) power relay

Contact Current Rating:

• Resistive Load: 5 A @ 30 VDC, 250 VAC, 110 VAC

Breakdown Voltage: 500 VAC

Relay On/Off Time: 1500 ms (Max.)

Initial Insulation Resistance: 1000 M ohms (min.) @ 500 VDC

Mechanical Endurance: 5,000,000 operations

Electrical Endurance: 100,000 operations @ 5 A resistive load

Contact Resistance: 100 m ohms (max.)

Pulse Output: 0.3 Hz at rated load

Isolation: 3K VDC or 2K Vrms

Note: Ambient humidity must be non-condensing and remain between 5 and 95%. The relays of the ioLogik E1214 may malfunction when operating in condensing environments below 0° Celsius.

Power Requirements

Power Consumption: 188 mA @ 24 VDC

MTBF (mean time between failures)

Time: 808,744 hrs

Database: Telcordia (Bellcore)

ioLogik E1240

Inputs and Outputs

Analog Inputs: 8 channels

Analog Input

Type: Differential input

Resolution: 16 bits

I/O Mode: Voltage / Current

Input Range: 0 to 10 VDC, 4 to 20 mA

Accuracy:

±0.1% FSR @ 25°C

±0.3% FSR @ -10 and 60°C

±0.5% FSR @ -40 and 75°C

Sampling Rate (all channels): 12 samples/sec

Input Impedance: 10M ohms (min.)

Built-in Resistor for Current Input: 120 ohms

Power Requirements

Power Consumption:121 mA @ 24 VDC

MTBF (mean time between failures)

Time: 474,053 hrs

Database: Telcordia (Bellcore)

ioLogik E1241

Inputs and Outputs

Analog Outputs: 4 channels

Isolation: 3K VDC or 2K Vrms

Analog Output

Resolution: 12 bits

Output Range: 0 to 10 VDC, 4 to 20 mA

Voltage Output: 10 mA (max.)

Accuracy:

±0.1% FSR @ 25°C

±0.3% FSR @ -40 and 75°C

Load Resistor:

- Internal power: 400 ohms
- External 24V power: 1000 ohms

Isolation: 3K VDC or 2K Vrms

Power Requirements

Power Consumption: 194 mA @ 24 VDC

MTBF (mean time between failures)

Time: 888,656 hrs

Database: Telcordia (Bellcore)

ioLogik E1242

Inputs and Outputs

Analog Inputs: 4 channels
Digital Inputs: 4 channels
Configurable DIOs: 4 channels
Isolation: 3K VDC or 2K Vrms

Analog Input

Type: Differential input
Resolution: 16 bits
I/O Mode: Voltage / Current
Input Range: 0 to 10 VDC, 4 to 20 mA
Accuracy:
±0.1% FSR @ 25°C
±0.3% FSR @ -10 and 60°C
±0.5% FSR @ -40 and 75°C
Sampling Rate (all channels): 12 samples/sec
Input Impedance: 10M ohms (min.)
Built-in Resistor for Current Input: 120 ohms
Isolation: 3K VDC or 2K Vrms

Digital Input

Sensor Type: Wet Contact (NPN or PNP), Dry Contact
I/O Mode: DI or Event Counter
Dry Contact:
• On: short to GND
• Off: open
Wet Contact (NPN, DI to GND):
• On: 0 to 3 VDC
• Off: 10 to 30 VDC
Wet Contact (PNP, DI to GND):
• Off: 0 to 3 VDC
• On: 10 to 30 VDC
Common Type: 4 points per COM
Counter Frequency: 250 Hz, power off storage
Digital Filtering Time Interval: Software selectable

Digital Output

Type: Sink
I/O Mode: DO or Pulse Output
Pulse Output Frequency: 500 Hz
Over-voltage Protection: 45 VDC
Over-current Protection: 2.6 A (4 channels @ 650 mA)
Over-temperature Shutdown: 175°C (typical), 150°C (min.)
Current Rating: 200 mA per channel

Power Requirements

Power Consumption:139 mA @ 24 VDC

MTBF (mean time between failures)

Time: 502,210 hrs
Database: Telcordia (Bellcore)

ioLogik E1260

Inputs and Outputs

RTD Inputs: 6 channels

Isolation: 3K VDC or 2K Vrms

RTD Inputs

Input Type:

•PT50, PT100, PT200, PT500 (-200 to 850°C)

•PT1000 (-200 to 350°C)

•Resistance of 310, 620, 1250, and 2200 ohms

Sampling Rate: 12 samples/sec (all channels)

Resolution: 0.1°C or 0.1 ohm

Accuracy:

±0.1% FSR @ 25°C

±0.3% FSR @ -40 and 75°C

Input Impedance: 625K ohms

Power Requirements

Power Consumption: 110 mA @ 24 VDC

MTBF (mean time between failures)

Time: 660,260 hrs

Database: Telcordia (Bellcore)

ioLogik E1262

Inputs and Outputs

Thermocouple Inputs: 8 channels

Isolation: 3K VDC or 2K Vrms

Thermocouple Input

Sensor Type: J (0 to 750°C), K (-200 to 1250°C), T (-200 to 350°C), E (-200 to 900°C), R (-50 to 1600°C), S (-50 to 1760°C), B (600 to 1700°C), N (-200 to 1300°C)

Millivolt Type:

• Mode: ±78.126 mV, ±39.062 mV, ±19.532 mV

• Fault and over-voltage protection: -35 to +35 VDC (power off); -25 to +30 VDC (power on)

Sampling Rate: 12 samples/sec (all channels)

Resolution: 16 bits

Accuracy:

±0.1% FSR @ 25°C

±0.3% FSR @ -40 and 75°C

Input Impedance: 10M ohms

Power Requirements

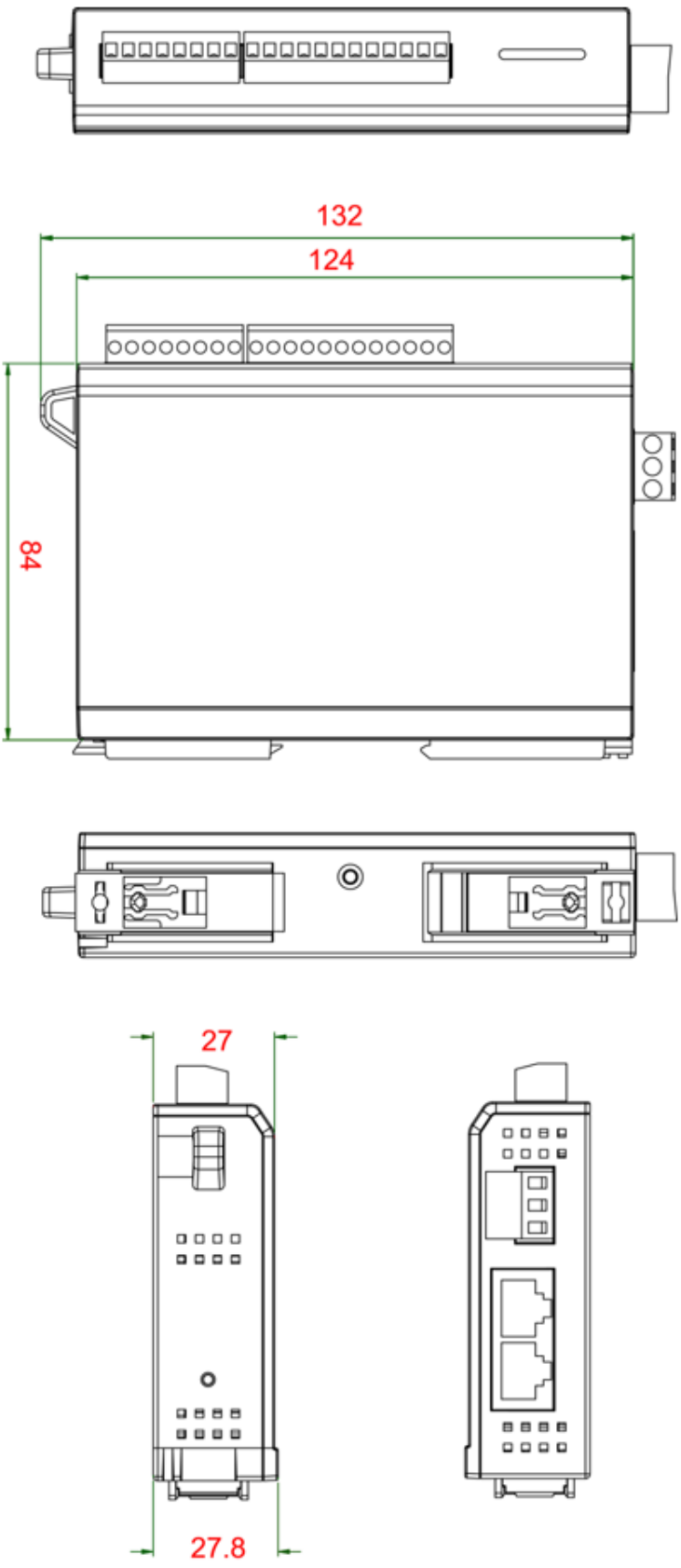
Power Consumption: 118 mA @ 24 VDC

MTBF (mean time between failures)

Time: 631,418 hrs

Database: Telcordia (Bellcore)

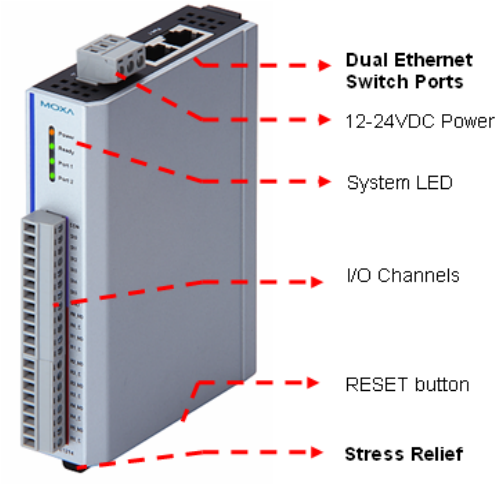
Physical Dimensions



Unit=mm

Hardware Reference

Panel Guide



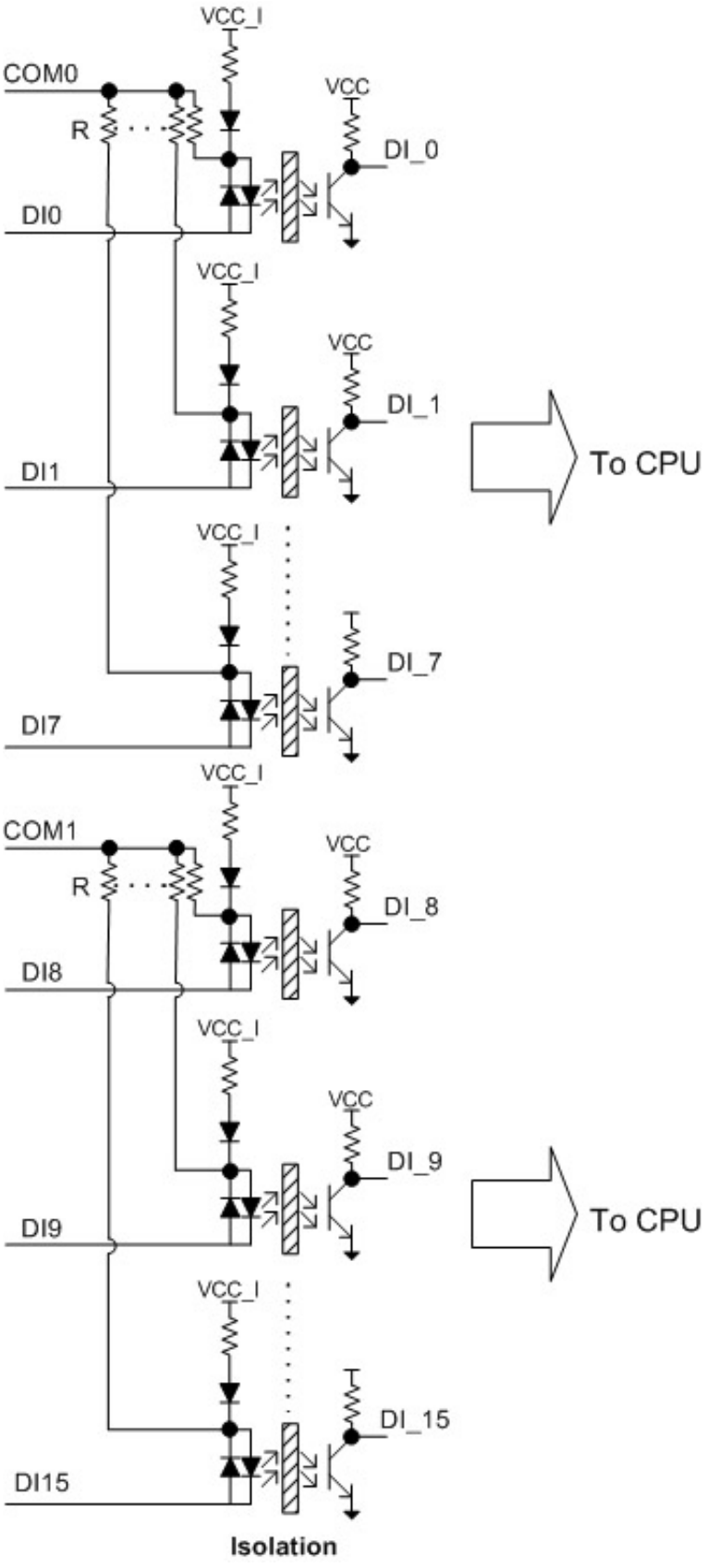
NOTE The reset button restarts the server and resets all settings to factory defaults. Use a pointed object such as a straightened paper clip to hold in the reset button for 5 sec. The factory defaults will be loaded once the Ready LED turns green again. You may then release the reset button.

LED Indicators

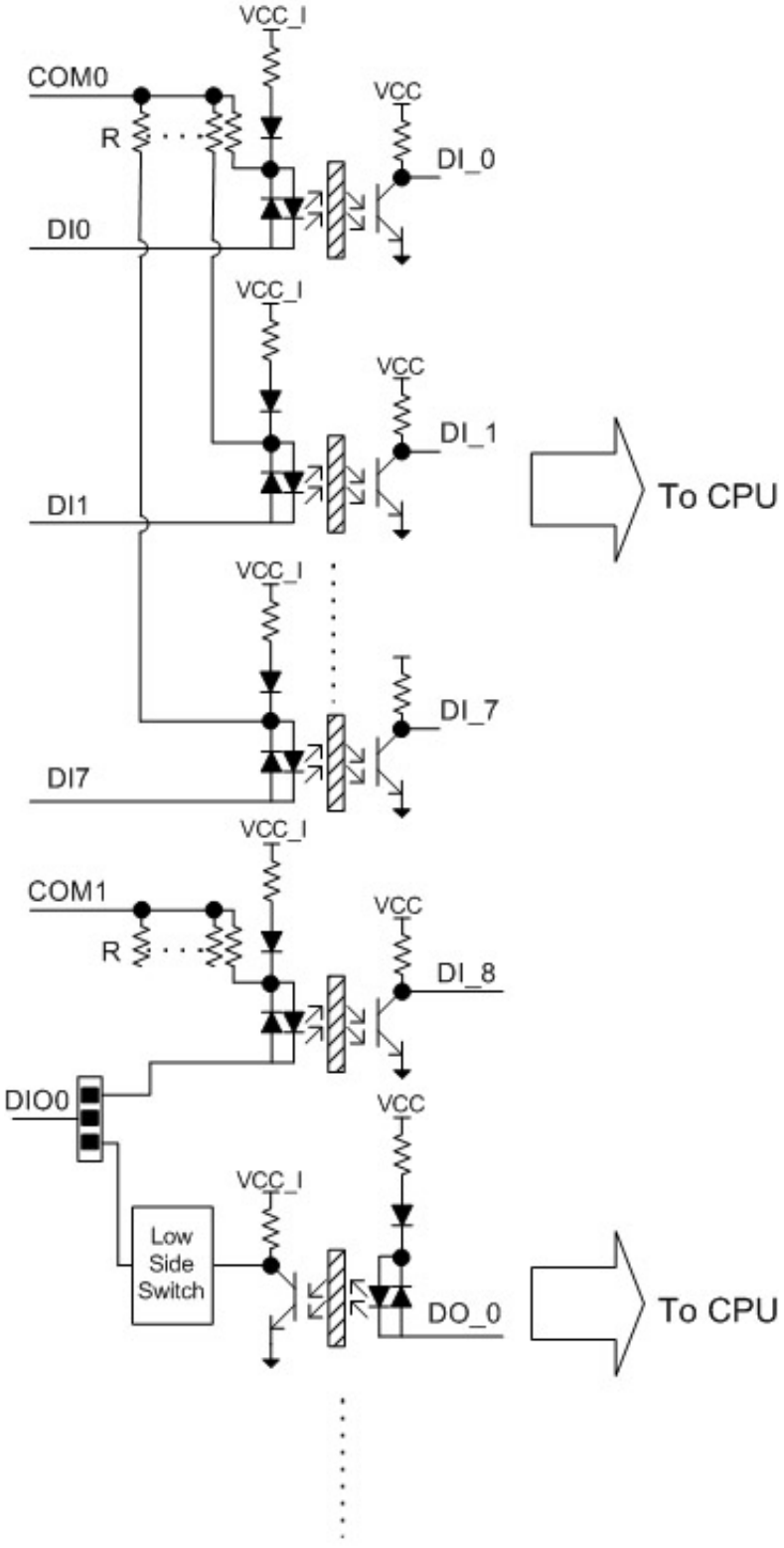
LED	State	Description
Power	Amber	System power is ON
	OFF	System power is OFF
Ready	Green	System is ready
	Flashing	Flashes every 1 sec when the Locate function is triggered
	Flashing	Flashes every 0.5 sec when the firmware is being upgraded
	Flashing	Cycle on/off period of 0.5 sec. represents **"Safe Mode"**
	OFF	System is not ready.
Port 1	Green	Ethernet connection enabled
	Flashing	Transmitting or receiving data
Port 2	Green	Ethernet connection enabled
	Flashing	Transmitting or receiving data

I/O Circuit Diagram

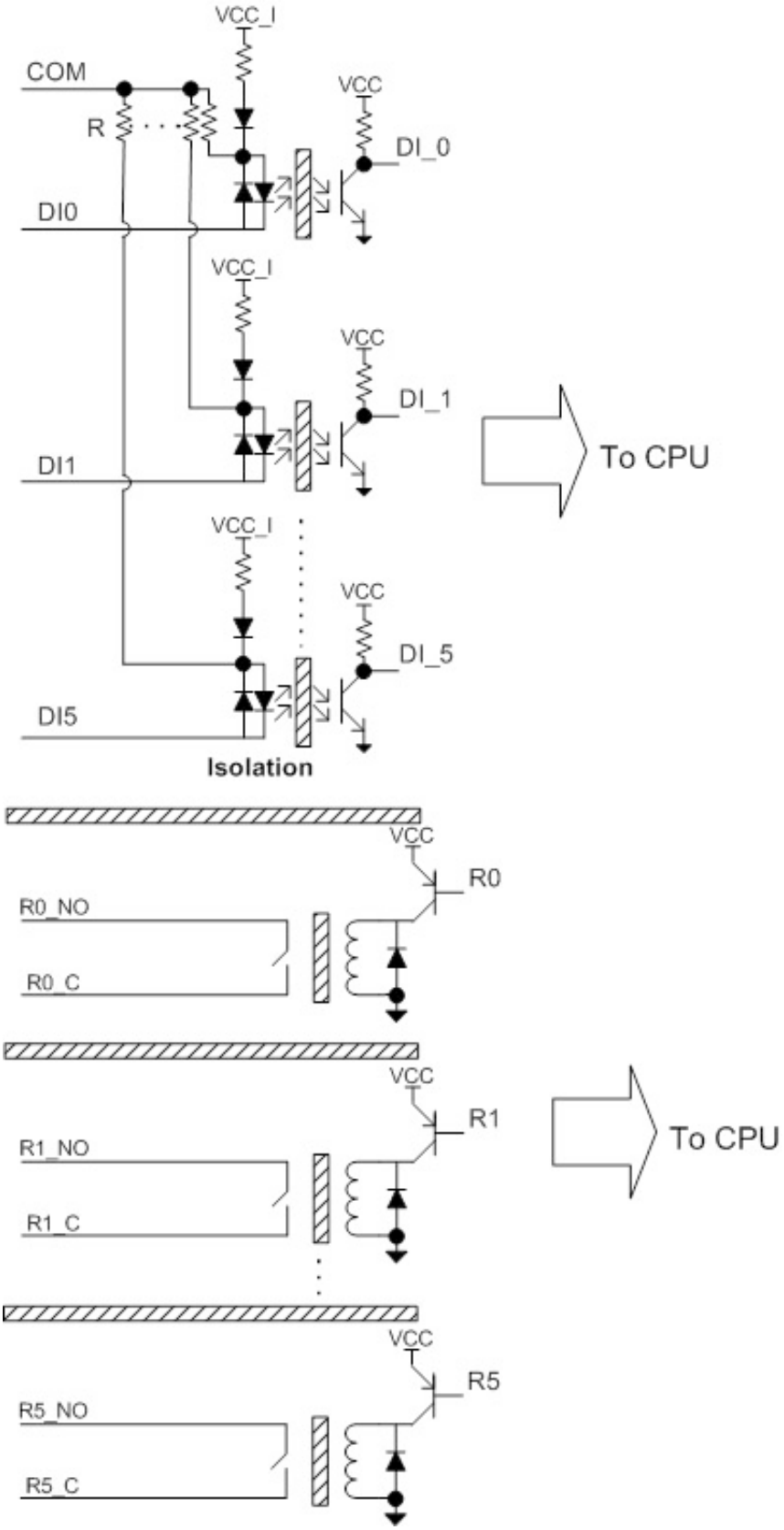
DI Circuit



DIO Circuit


VCC_I
COM0
R
VCC
DI_0
DI0
VCC_I
VCC
DI_1
To CPU
DI1
VCC_I
DI_7
DI7
VCC_I
COM1
R
VCC
DI_8
DIO0
VCC
VCC_I
Low Side Switch
DO_0
To CPU
Isolation

DI & Relay Circuit



2

Initial Setup

This chapter describes how to install the ioLogik E1200.

The following topics are covered in this chapter:

- **Hardware Installation**
  - Connecting the Power
  - Grounding the ioLogik E1200
  - Connecting to the Network
  - Jumper Settings (DIO and AI)
  - I/O Wiring Diagrams
- **Software Installation**
- **Load Factory Defaults**

Hardware Installation

Connecting the Power

Connect the 12 to 36 VDC power line to the ioLogik E1200's terminal block on the top panel. If power is properly supplied, the Power LED will glow a solid amber color.

ATTENTION

Disconnect the power cord before installing or wiring your ioLogik E1200.
Do not exceed the maximum current for the wiring
Determine the maximum possible current for each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size. If the current exceeds the maximum rating, the wiring could overheat, causing serious damage to your equipment. For safety reasons, the wires attached to the power should be at least 2 mm in diameter.

Grounding the ioLogik E1200

The ioLogik E1200 is equipped with a grounding point on the terminal block located on the top panel.

Connect the ground pin ( ) if earth ground is available.

Connecting to the Network

The ioLogik E1200 has two built-in Ethernet switch ports for connecting a standard direct or cross-over Ethernet cable from RJ45 port to either the host PC or another ioLogik E1200 device. For initial setup of the ioLogik E1200, it is recommended that the ioLogik E1200 be configured using a direct connection to a host computer rather than remotely over the network.

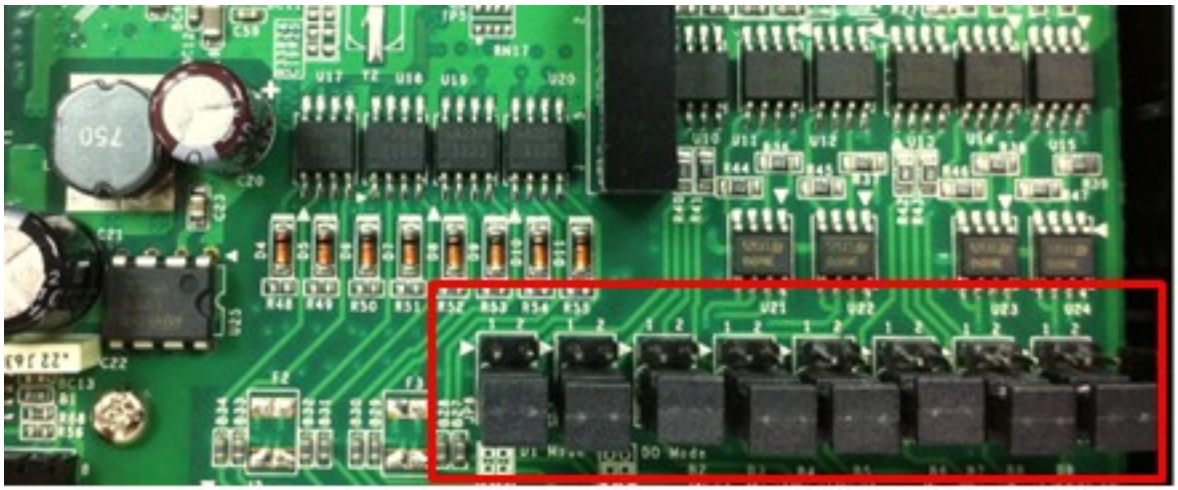
Configure the host PC's IP address to 192.168.127.xxx (where xxx ranges from 001 to 253). When using Windows, you will need to do the configuration from the Control Panel.

ioLogik E1200 Default IP Address	Default Netmask	Default Gateway
192.168.127.254	255.255.255.0	None

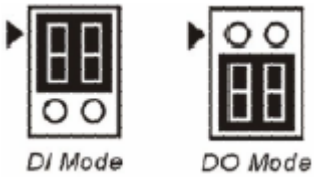
Use the web console or ioSearch configuration utility to connect to the ioLogik E1200. Once the ioLogik E1200 has been detected, modify the settings as needed for your network environment, and then restart the server. Refer to Chapters 3 and 4 or further details.

Jumper Settings (DIO and AI)

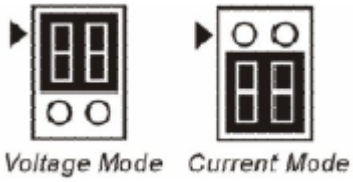
The ioLogik E1212, E1240, and E1242 require configuring the jumpers inside the enclosure. Remove the screw on the back panel and open the cover to configure the jumpers.



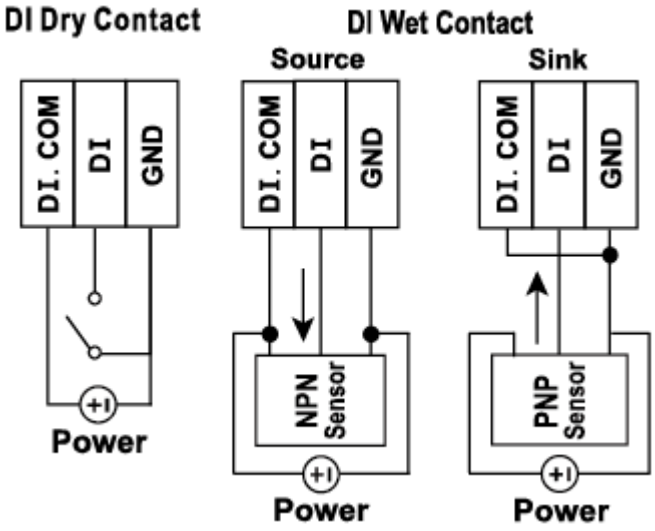
DIO mode configuration is as follows (default is DO Mode)



Analog mode configuration is as follows (default is Voltage Mode)



I/O Wiring Diagrams

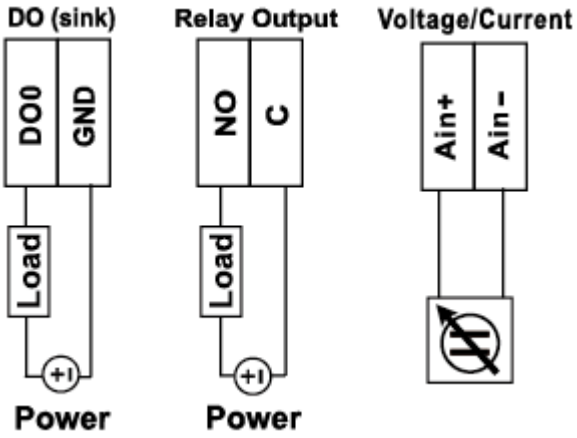


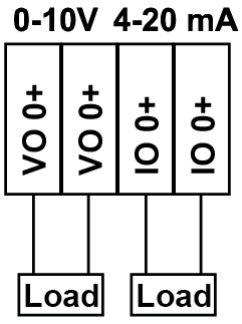
A **Dry Contact** is a contact that does not provide voltage, e.g., the push-to-talk switch of a microphone, which just closes a circuit without providing voltage.

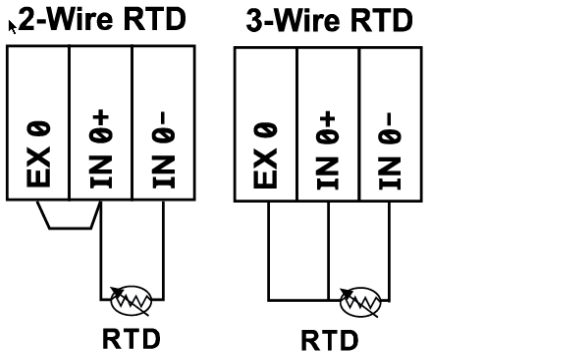
A **Wet Contact** is a contact that will provide voltage when closed, e.g., a switch on the wall that activates a 110 VAC outlet to turn a lamp on in a room.

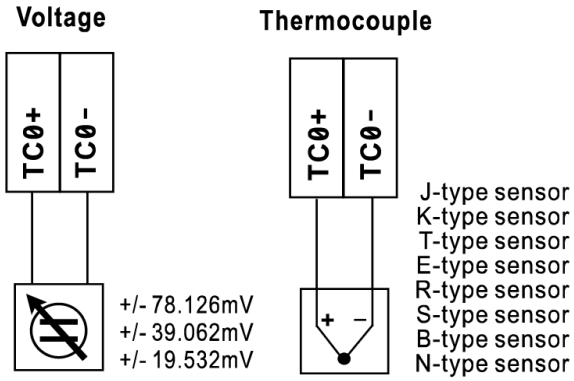
ATTENTION

Remove the screw on the back panel and open the cover to configure the jumpers.

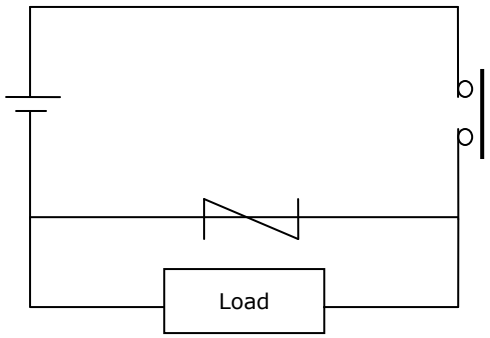








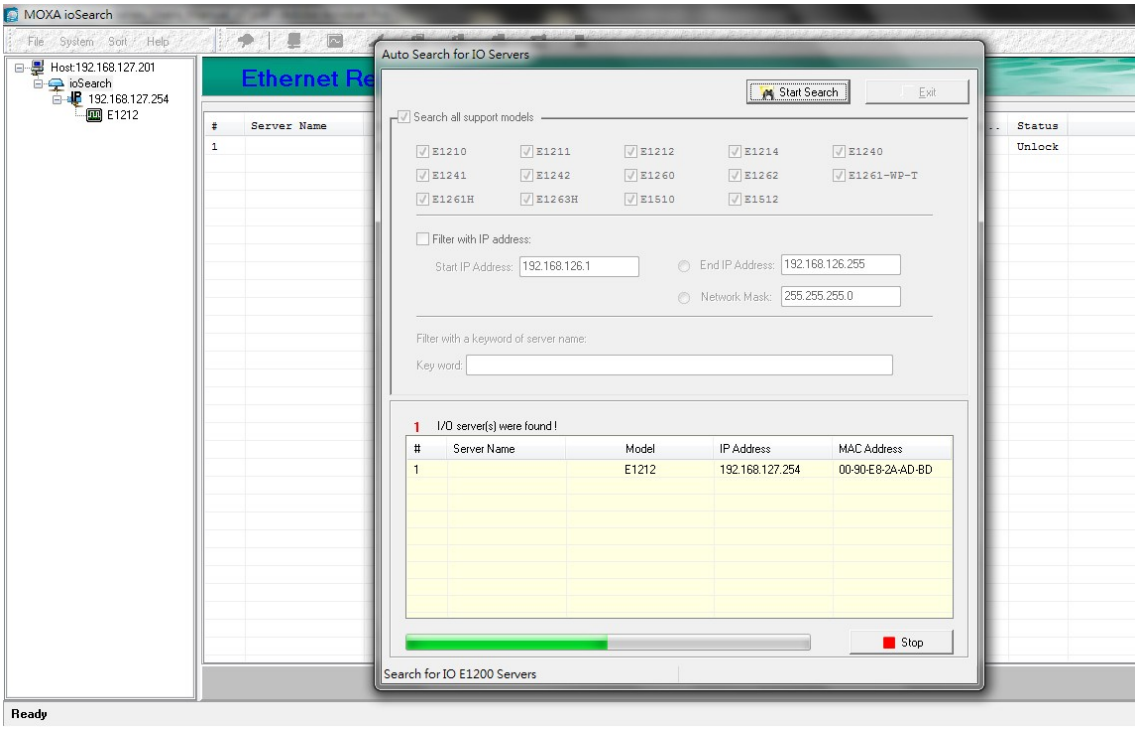
NOTE It is good to have a contact protection circuit for relay output. A varistor can serve as a contact protection circuit, where the parallel connects with load.



ioSearch™ Installation

ioSearch is a search utility that helps the user locate ioLogik E1200 devices on the local network. Find the ioSearch utility in the Document and Software CD under Software → ioSearch, or download the latest version from Moxa's website.

1. Installing from the CD: Insert the Document and Software CD into the host computer. In the root directory of the CD, locate and run SETUP.EXE. The installation program will guide you through the installation process and install the ioSearch utility. You can also install the MXIO DLL library separately.
2. Open ioSearch: After installation is finished, run ioSearch from Start ☐Program Files ☐MOXA →IO Server ☐Utility ☐ioSearch
3. Search the network for the server: On the menu bar, select System ☐Auto Scan Active Ethernet I/O Server. A dialog window will pop up. Click Start Search to begin searching for the ioLogik E1200.



If multiple ioLogik E1200 units are installed on the same network, remember that each unit has the same default IP address. You will need to assign a different IP address to each unit to avoid IP conflicts.

Load Factory Defaults

There are three ways to restore the ioLogik E1200 to the factory default.

1. Hold the RESET button for 5 seconds.
2. Right click the specified ioLogik in the ioSearch utility and select **"Reset to Default"**.
3. Select **"Load Factory Default"** from the web console

3

Using the Web Console

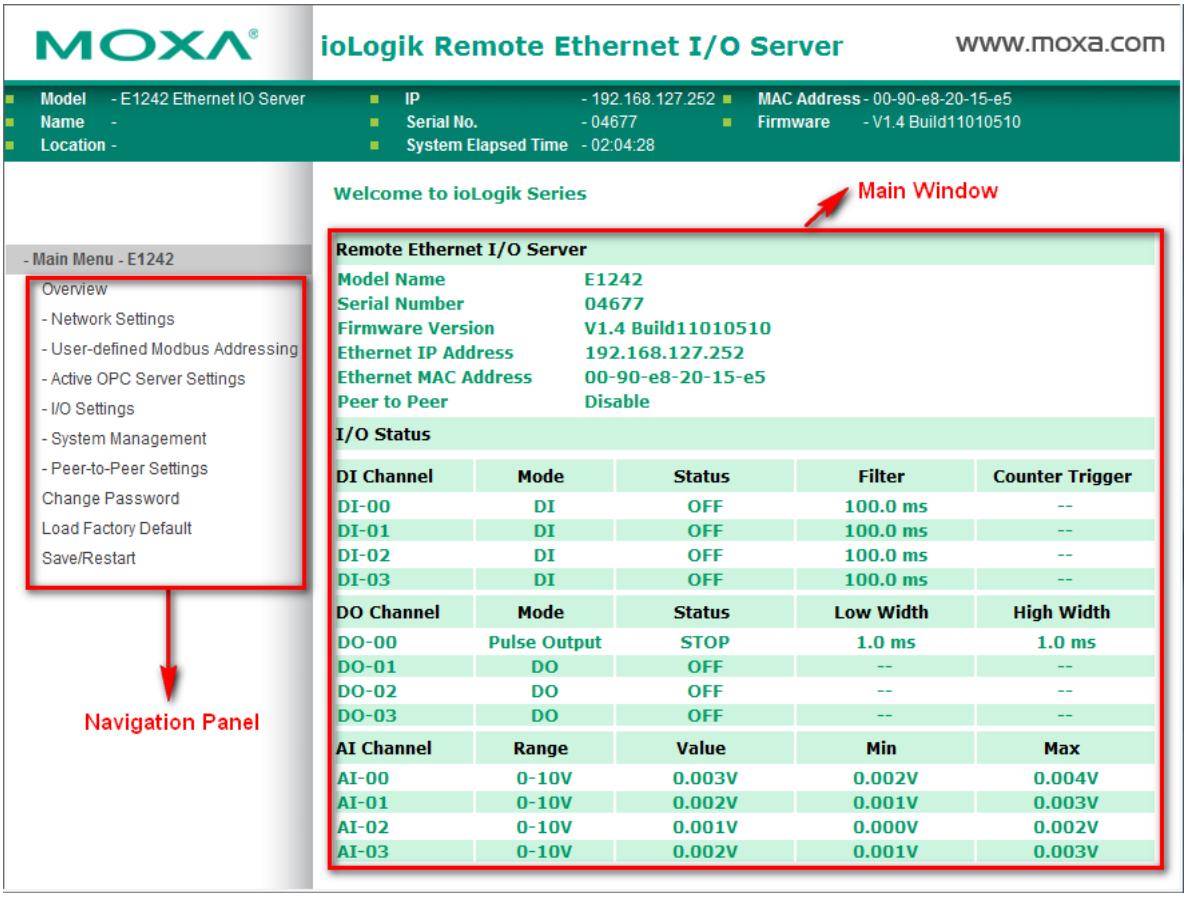
The ioLogik E1200's main configuration and management utility is the built-in web console, which can be used to configure a wide range of options.

The following topics are covered in this chapter:

- **Introduction to the Web Console**
- **Overview**
- **Network Settings**
  - General Settings
  - Ethernet Configuration
- **User-defined Modbus Addressing**
  - Default Address
- **AOPC Server Settings**
- **Tag Generation**
- **I/O Settings**
  - DI Channels
  - DO Channels
  - AI Channels
  - AI Input Range
  - AO Channels
  - RTD Channels
  - TC Channels
- **System Management**
  - IP Accessibility
  - Network Connection
  - Firmware Update
  - Import System Configuration Settings
  - Export System Configuration Settings
- **Peer-to-peer Settings**
  - Peer-to-peer Settings (1-50)
  - Sample Configuration
  - DO Safe Mode Settings
  - AO Safe Mode Settings
- **Change Password**
- **Load Factory Defaults**
- **Save/Restart**

Introduction to the Web Console

The ioLogik E1200 web console is a browser-based configuration utility. When the ioLogik E1200 is connected to your network, you may enter the server's IP address in your web browser to access the web console.


MOXA
ioLogik Remote Ethernet I/O Server
www.moxa.com
Model - E1242 Ethernet IO Server
Name -
Location -
IP - 192.168.127.252
Serial No. - 04677
System Elapsed Time - 02:04:28
MAC Address - 00-90-e8-20-15-e5
Firmware - V1.4 Build11010510
Welcome to ioLogik Series
Main Window
- Main Menu - E1242
Overview
- Network Settings
- User-defined Modbus Addressing
- Active OPC Server Settings
- I/O Settings
- System Management
- Peer-to-Peer Settings
Change Password
Load Factory Default
Save/Restart
Navigation Panel
Remote Ethernet I/O Server
Model Name E1242
Serial Number 04677
Firmware Version V1.4 Build11010510
Ethernet IP Address 192.168.127.252
Ethernet MAC Address 00-90-e8-20-15-e5
Peer to Peer Disable
I/O Status
DI Channel Mode Status Filter Counter Trigger
DI-00 DI OFF 100.0 ms --
DI-01 DI OFF 100.0 ms --
DI-02 DI OFF 100.0 ms --
DI-03 DI OFF 100.0 ms --
DO Channel Mode Status Low Width High Width
DO-00 Pulse Output STOP 1.0 ms 1.0 ms
DO-01 DO OFF -- --
DO-02 DO OFF -- --
DO-03 DO OFF -- --
AI Channel Range Value Min Max
AI-00 0-10V 0.003V 0.002V 0.004V
AI-01 0-10V 0.002V 0.001V 0.003V
AI-02 0-10V 0.001V 0.000V 0.002V
AI-03 0-10V 0.002V 0.001V 0.003V

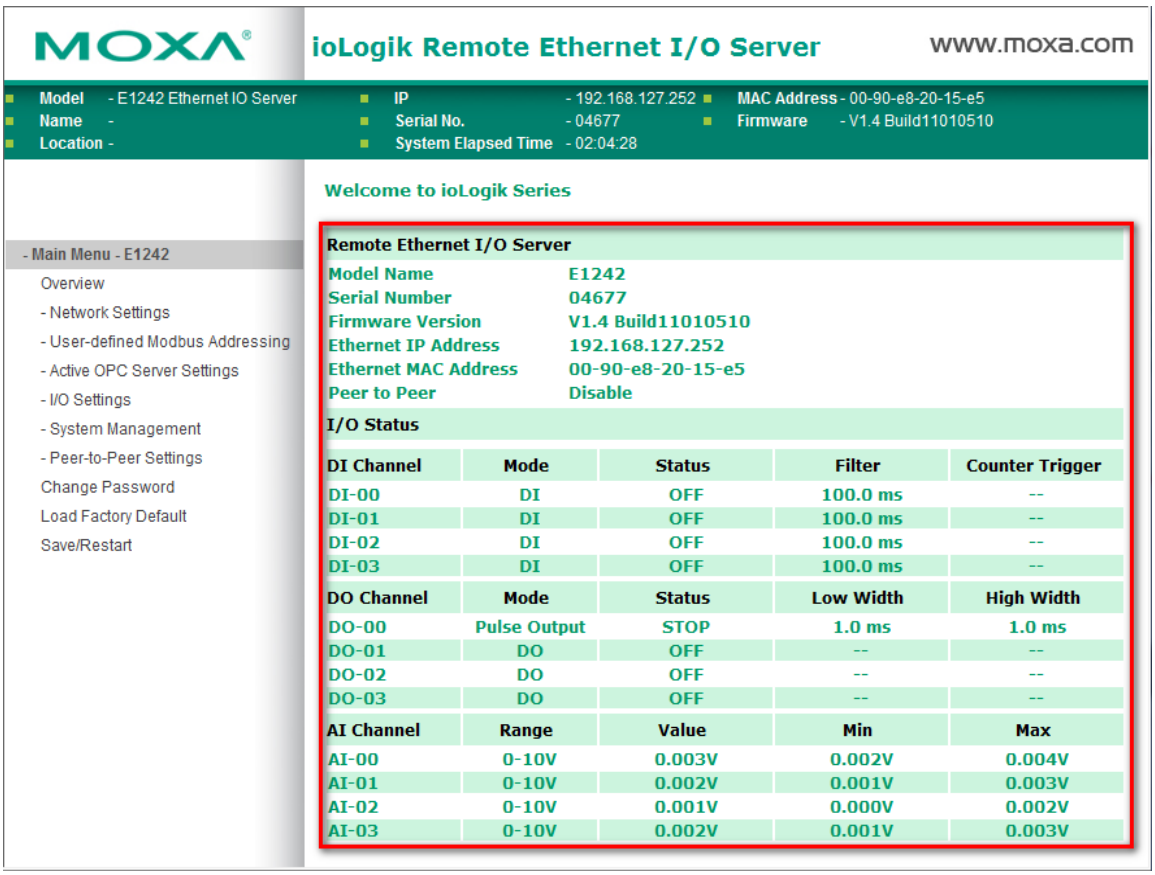
The left panel is the navigation panel and contains an expandable menu tree for navigating among the various settings and categories. When you click on a menu item in the navigation panel, the main window will display the corresponding options for that item. Configuration changes can then be made in the main window. For example, if you click on **Network Settings** in the navigation panel, the main window will show a page of basic settings that you can configure.

You must click on the **Submit** button after making configuration changes. The **Submit** button will be located at the bottom of every page that has configurable settings. If you navigate to another page without clicking the **Submit** button, your changes will not be retained.

Submitted changes will not take effect until they are saved and the ioLogik E1200 is restarted! You may save and restart the server in one step by clicking on the **Save/Restart** button after you submit a change. If you need to make several changes before restarting, you may save your changes without restarting by selecting **Save/Restart** in the navigation panel. If you restart the ioLogik E1200 without saving your configuration, the ioLogik E1200 will discard all submitted changes.

Overview

The Overview page contains basic information about the ioLogik E1200, including the model name, serial number, firmware version, MAC address, and current IP address. Most importantly, you can see the current I/O status by hitting the F5 key on the computer keyboard to refresh the page.


MOXA
ioLogik Remote Ethernet I/O Server
www.moxa.com
Model - E1242 Ethernet IO Server
Name -
Location -
IP - 192.168.127.252
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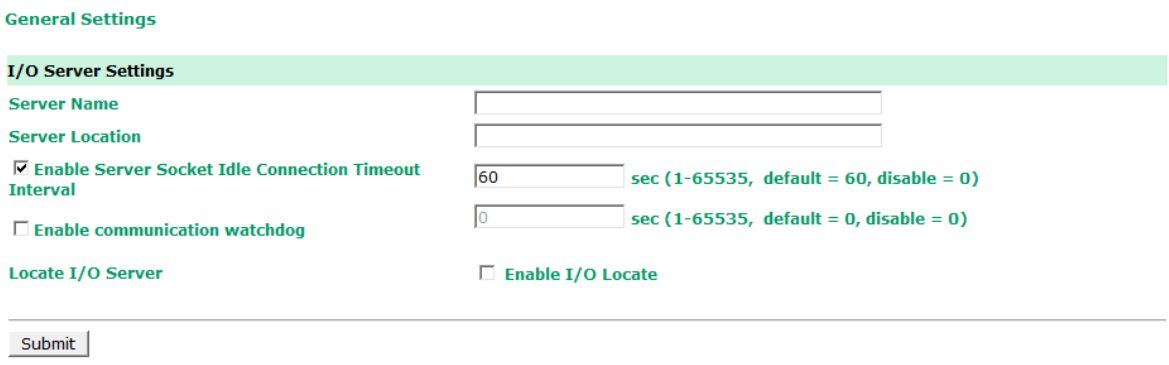
- Peer-to-Peer Settings
Change Password
Load Factory Default
Save/Restart
Remote Ethernet I/O Server
Model Name E1242
Serial Number 04677
Firmware Version V1.4 Build11010510
Ethernet IP Address 192.168.127.252
Ethernet MAC Address 00-90-e8-20-15-e5
Peer to Peer Disable
I/O Status
DI Channel Mode Status Filter Counter Trigger
DI-00 DI OFF 100.0 ms --
DI-01 DI OFF 100.0 ms --
DI-02 DI OFF 100.0 ms --
DI-03 DI OFF 100.0 ms --
DO Channel Mode Status Low Width High Width
DO-00 Pulse Output STOP 1.0 ms 1.0 ms
DO-01 DO OFF -- --
DO-02 DO OFF -- --
DO-03 DO OFF -- --
AI Channel Range Value Min Max
AI-00 0-10V 0.003V 0.002V 0.004V
AI-01 0-10V 0.002V 0.001V 0.003V
AI-02 0-10V 0.001V 0.000V 0.002V
AI-03 0-10V 0.002V 0.001V 0.003V

Network Settings for the Web Console

General Settings

On the General Settings page, you can assign a server name and location to assist you in differentiating between different ioLogik E1200 units. You may also configure the Modbus/TCP idle interval or enable the Communication Watchdog function.



The **Server Socket Idle Connection Timeout Interval:** When the ioLogik E1200's connection to the server exceeds a specified time period the device will automatically release its modbus/TCP connection to the server, to free up the port for the next connection.

The **Communication Watchdog** comes alive when there is a loss of modbus/TCP network connectivity, and after a specified amount of time has passed it then activates **Safe Mode**. Safe mode is especially designed for products that have output channels, so they will output a suitable value (*ref AO Safe Mode Setting*) or status (*ref DO Safe Mode Setting*) when the ioLogik E1200 cannot be controlled by a remote PC (due to network failure,

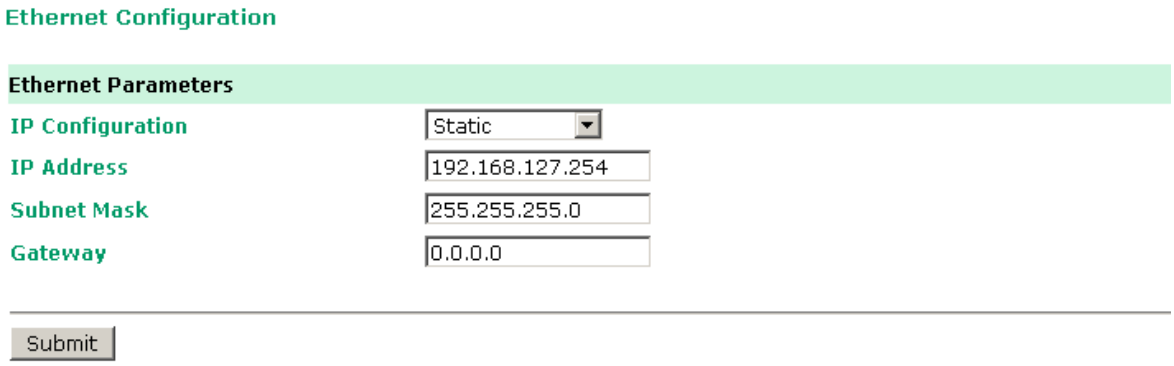
for example).By default, the Watchdog is disabled. Users can configure how each output channel responds on the I/O Settings page.

To enable the Watchdog, check **Enable Connection Watchdog**, set the timeout value, and then restart the server. With Watchdog enabled, the ioLogik E1200 will enter Safe Mode after there is a disruption in communication that exceeds the specified time limit.

For easier location of devices when troubleshooting, enable the remote control of LEDs on the E1200 series devices by selecting **"Enable I/O Locate,"** to allow remote toggling of the **"Ready"** LED from off to flashing.

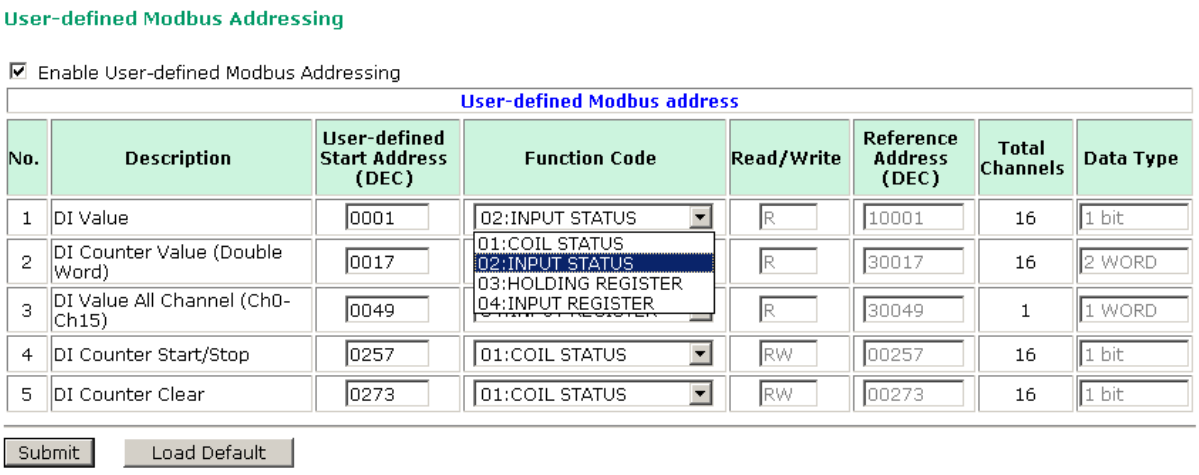
Ethernet Configuration

On the **Ethernet Configuration** page, you can set up a static or dynamic IP address for the ioLogik E1200, and configure the subnet mask and gateway address.



User-defined Modbus Addressing

The input and output address can be configured in a different format on a specific settings page. Check the **"Enable User-defined Modbus Addressing"** box, select the Modbus function, and then configure the start address of each item.



ATTENTION

Disable the user-defined modbus addressing function if using the MXIO(.NET) library or using Active OPC Server to control or monitor the ioLogik E1200's I/O Status.

Default Address

On this settings page, you can view the default Modbus address for all I/O devices. The page only displays the start address of each item. For example, if the DI Value starts from 10001, then the 1st DI channel's Modbus address is 10001 and the 2nd DI is 10002. Please refer to the diagram at the top of the following page.

Default Modbus Address

Default Modbus address

No.	Description	User-defined Start Address (DEC)	Function Code	Read/Write	Reference Address (DEC)	Total Channels	Data Type
1	DI Value	0001	02:INPUT STATUS	R	10001	16	1 BIT
2	DI Counter Value Double Word	0017	04:INPUT REGISTER	R	30017	16	2 WORD
3	DI Value All Channel (Ch0-Ch15)	0049	04:INPUT REGISTER	R	30049	1	1 WORD
4	DI Counter Start/Stop	0257	01:COIL STATUS	RW	00257	16	1 BIT
5	DI Counter Clear	0273	01:COIL STATUS	RW	00273	16	1 BIT

AOPC Server Settings

Moxa's Active OPC Server™ is a software package operated as an OPC driver of an HMI or SCADA system. It seamlessly connects Moxa's ioLogik products to a wide variety of SCADA systems, including the most popular: Wonderware, Citect, and iFix. **Active OPC Server™** conforms to the OPC Foundation's latest data access standard, DA 3.0, to connect with other standards-compliant devices and host OPC machines.

Hardware Requirements	
CPU	Intel Pentium 4 and above
RAM	512 MB (1024 MB recommended)
Network Interface	10/100 MB Ethernet
Software Requirements	
Operating System	Microsoft Windows 2000, XP or later
Editor (not required)	Microsoft Office 2003 (Access 2003) or later
OPC Server Specifications	
OPC Data Access	1.0a, 2.0, 2.05a, 3.0
Max. No. of Tags	5000 (V1.12 or later)

Active OPC Server can be downloaded from the Moxa Website, and may be found from the support page, www.moxa.com/support/.

After downloading the AOPC software, unzip it and run Install.exe. The installation program will guide you through the installation process and install the Active OPC Server Utility.

For more details on AOPC installation and use, please refer to the Active OPC User's Manual.

Tag Generation

Tag configuration of an ioLogik E1200 is specified by its web console. Open the browser and go to the Active OPC Server Settings page.

Follow these steps to create the tag from the ioLogik E1200 to Active OPC Server:

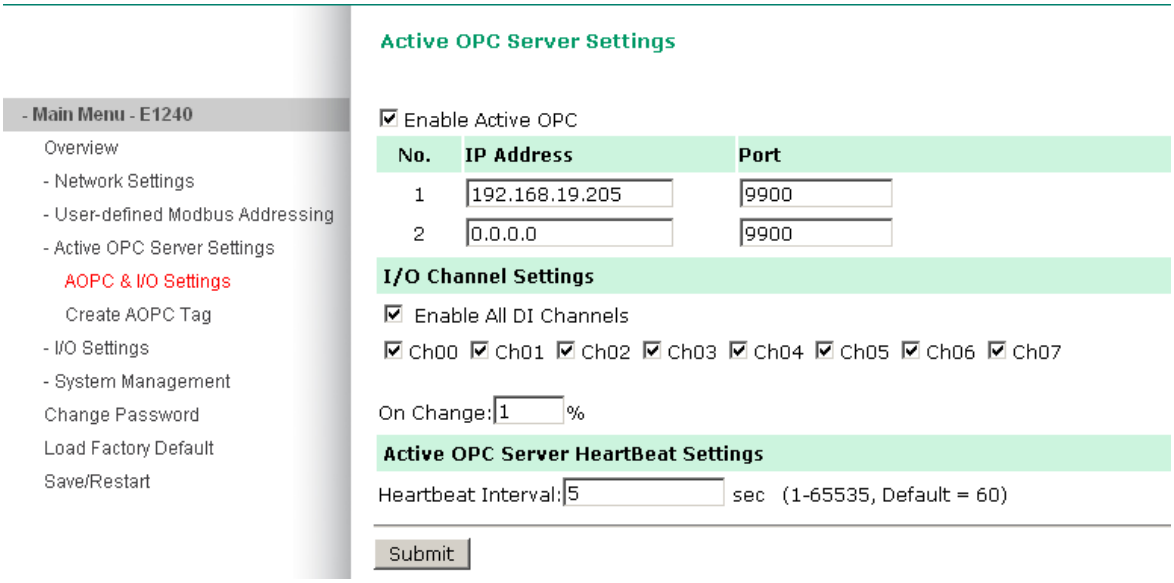
In the AOPC & I/O Settings page,

Check the "**Enable Active OPC**" box and specify the IP address where the Active OPC Server is installed.

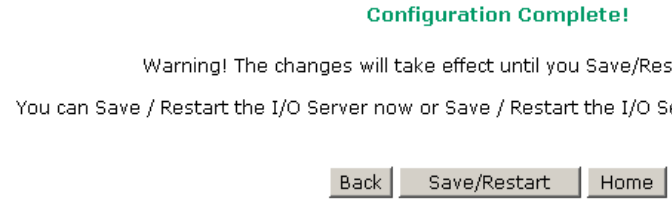
Select the I/O channels that need to be created in the Active OPC Server.

Configure the Heartbeat Interval, if necessary.

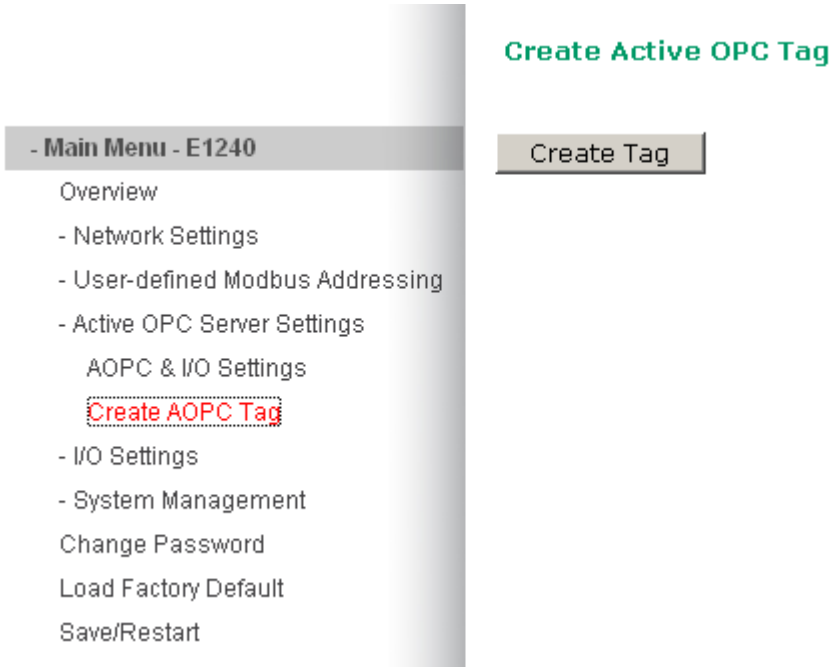
The Heartbeat Interval can be used to determine the connection status between the ioLogik and Active OPC Server, and to ensure that the ioLogik is connected and alive. If the heartbeat interval is set and the network between the ioLogik E1200 and Active OPC Server is down, Active OPC Server will detect the stopped heartbeat and the Quality column in the Active OPC will display BAD to indicate the loss of connectivity.



Click the "**Submit**" button and click the Save/Restart button on the next page.


Configuration Complete!
Warning! The changes will take effect until you Save/Restart the I/O Server.
You can Save / Restart the I/O Server now or Save / Restart the I/O Server when all settings complete.
Back
Save/Restart
Home

On the Create AOPC Tag page, click on the **Create Tags** button to push the tag configuration to Active OPC Server.



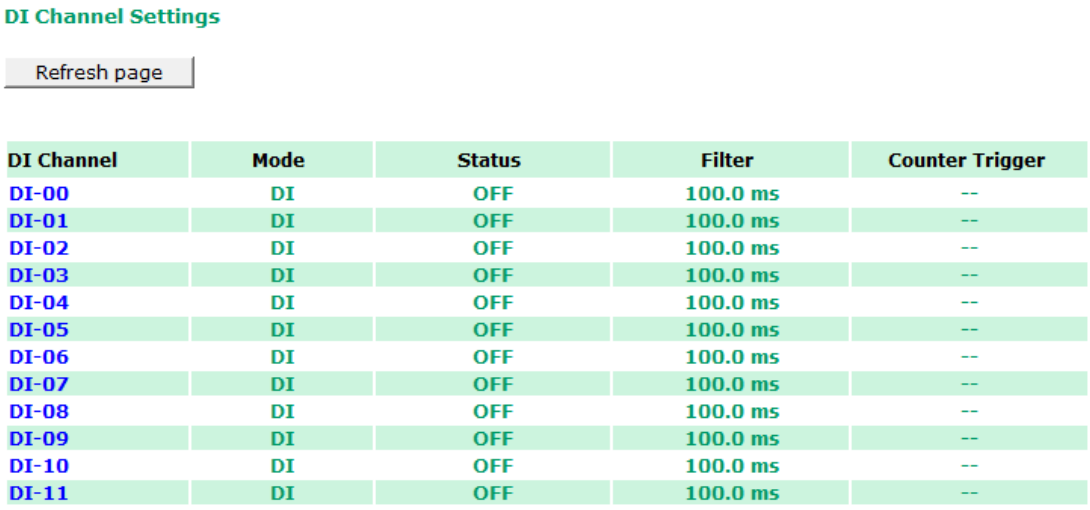
Launch the Active OPC Server program; tags will be automatically created.

Save the configuration of the Active OPC Server Lite when exiting the program.

I/O Settings

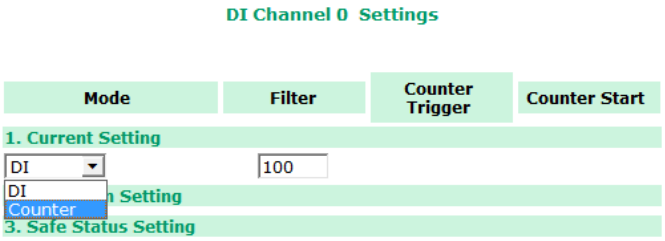
DI Channels

The status of each DI (digital input) channel appears on the I/O Setting: DI Channels page.



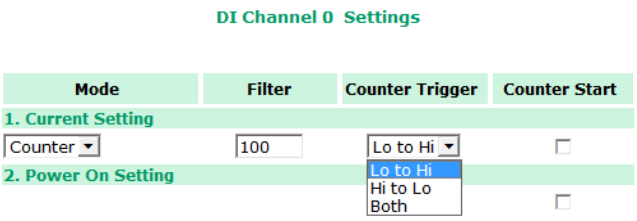
DI Channel	Mode	Status	Filter	Counter Trigger
DI-00	DI	OFF	100.0 ms	--
DI-01	DI	OFF	100.0 ms	--
DI-02	DI	OFF	100.0 ms	--
DI-03	DI	OFF	100.0 ms	--
DI-04	DI	OFF	100.0 ms	--
DI-05	DI	OFF	100.0 ms	--
DI-06	DI	OFF	100.0 ms	--
DI-07	DI	OFF	100.0 ms	--
DI-08	DI	OFF	100.0 ms	--
DI-09	DI	OFF	100.0 ms	--
DI-10	DI	OFF	100.0 ms	--
DI-11	DI	OFF	100.0 ms	--

You can also configure each channel's digital input mode and parameters by clicking on the channel. DI Channels can operate in **DI mode** or **Event Counter mode**.



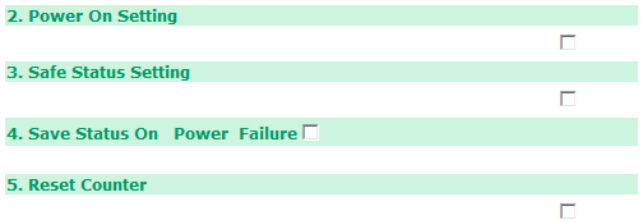
You activate the **Event Counter mode** by selecting the **Counter Start** field and configure the **Counter Trigger** to be either **"Lo to Hi," "Hi to Lo,"** or **"Both"**. When the Counter Start field is not selected you can still activate the counter by using Modbus command.

Note* Make sure that the Counter Filter is not set to 0; otherwise, the counter will never be activated.

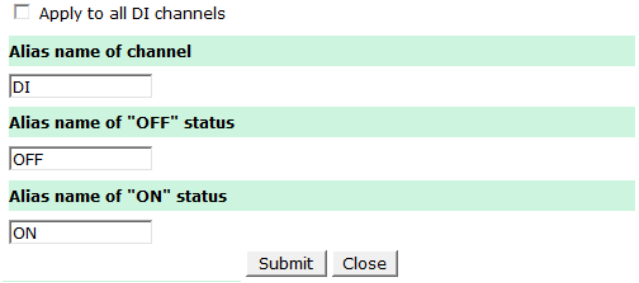


When configuring individual channels, if the **Power On Setting** is selected the counter will start as soon as the ioLogik E1200 is powered on; if the **Safe Status Setting** is selected, the counter will start only once the E1200 has entered Safe Status mode; In contrast, When neither of these setting is selected and **"Counter Start"** setting is, the ioLogik E1200 will automatically stop the Counter when either ioLogik E1200 is Powered On or when it entered into Safe Status mode. (*Note* that Safe Status is controlled by the Communication Watchdog under General Setting, which is disabled by default. If the Communication Watchdog is disabled, the ioLogik E1200 will never enter Safe Mode and your Safe Status settings will have no effect.*)

By selecting **Save Status on Power Failure** field, the ioLogik E1200 will automatically save the counter value when there is a power failure. To reset the Counter, you will select **Reset Counter field** and then click on the Submit button.



The Digital Input's **Alias Name** and the logic definition can also be configured on this page. You can apply the alias name to all channels by click on the "**Apply to all DI channels**" box.



DI Channel Specification:

NOTE: Filter unit = 1ms, range = 1-65535.	
Note1:	Filter unit=0.5ms, range=1~65535.
Note2:	
Sensor Type	-> Wet Contact (Source or Sink) and Dry Contact.
Dry Contact	-> OFF : Open.
	-> ON : Short to GND.
Wet Contact (Source/PNP)	-> OFF : 10 - 30VDC.
	-> ON : 0 - 3 VDC.
Wet Contact (Sink/NPN)	-> OFF : 0 - 3 VDC.
	-> ON : 10 - 30VDC.

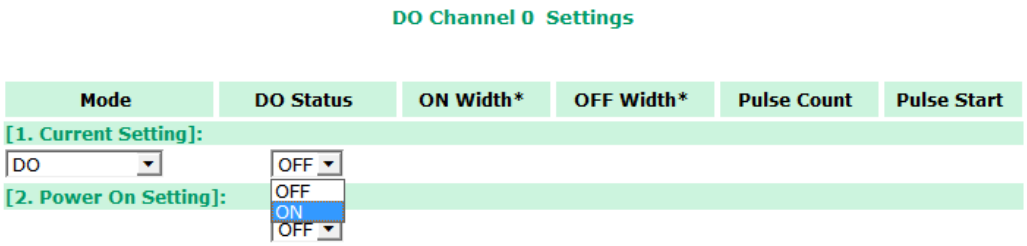
WARNING: Be sure to Save/Restart your settings.

DO Channels

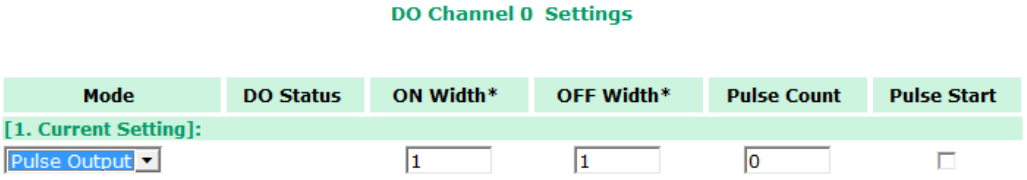
On the I/O Setting: DO (Digital Output) Channels page; You can configure each DO channel by clicking on the channel.

DO Channel	Mode	Status	ON Width	OFF Width
DO-00	Pulse Output	STOP	100.0 ms	100.0 ms
DO-01	Pulse Output	STOP	100.0 ms	100.0 ms
DO-02	Pulse Output	STOP	100.0 ms	100.0 ms
DO-03	Pulse Output	STOP	100.0 ms	100.0 ms
DO-04	Pulse Output	STOP	100.0 ms	100.0 ms
DO-05	Pulse Output	STOP	100.0 ms	100.0 ms
DO-06	Pulse Output	STOP	100.0 ms	100.0 ms
DO-07	Pulse Output	STOP	100.0 ms	100.0 ms
DO-08	Pulse Output	STOP	100.0 ms	100.0 ms
DO-09	Pulse Output	STOP	100.0 ms	100.0 ms
DO-10	Pulse Output	STOP	100.0 ms	100.0 ms
DO-11	Pulse Output	STOP	100.0 ms	100.0 ms
DO-12	Pulse Output	STOP	100.0 ms	100.0 ms
DO-13	Pulse Output	STOP	100.0 ms	100.0 ms
DO-14	Pulse Output	STOP	100.0 ms	100.0 ms
DO-15	Pulse Output	STOP	100.0 ms	100.0 ms

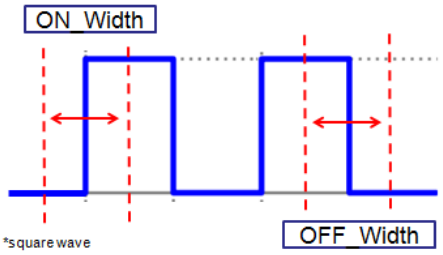
DO Channels can operate in **DO mode** and is either on or off.



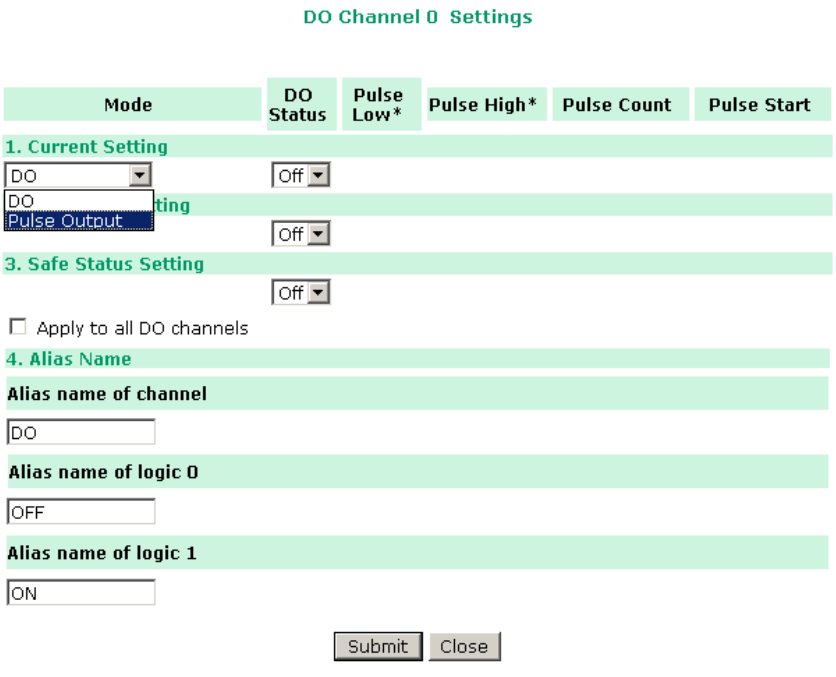
Or in **Pulse Output mod**e, you can specify the ON Width and OFF width to generate a square wave.



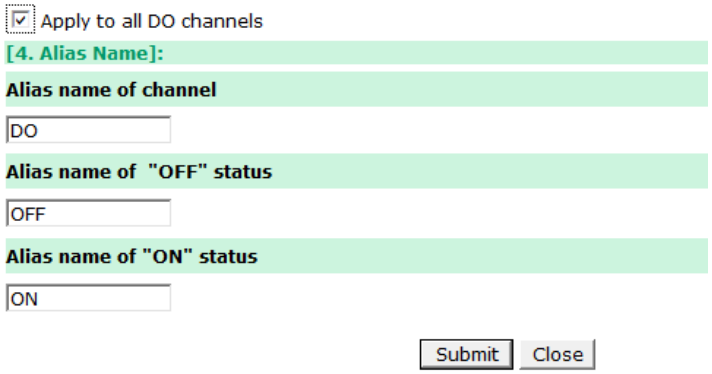
Pulse Width unit = 1 ms, range = 1-65535



When configuring individual channels, if the **Power On Setting** is selected the Pulse Output will start as soon as the ioLogik E1200 is powered on; if the **Safe Status Setting** is selected, the Pulse Output will start only once the E1200 has entered Safe Status mode; In contrast, When neither of these setting is selected and **"Pulse Start"** field is selected, the ioLogik E1200 will automatically stop the Pulse Output when either ioLogik E1200 is Powered On or when ioLogik E1200 entered into Safe Status mode. (*Note* that Safe Status is controlled by the Communication Watchdog under General Setting, which is disabled by default. If the Communication Watchdog is disabled, the ioLogik E1200 will never enter Safe Mode and your Safe Status settings will have no effect.*)



The Digital Output's **Alias Name** and the logic definition can also be configured on this page. You can apply the alias name to all channels by click on the **"Apply to all DO channels"** box.

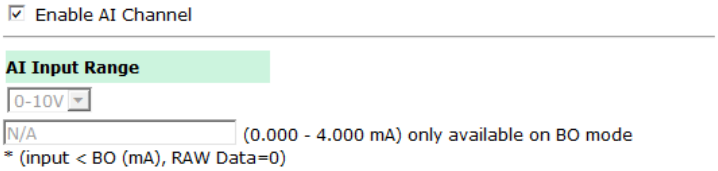


AI Channels

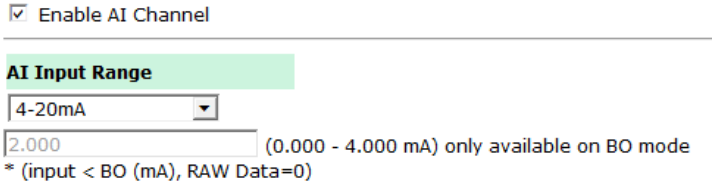
The current status of each AI (analog input) channel can be viewed on the I/O Setting: AI Channels page.

Click on a specific channel to enable or disable the AI channel by selecting the "**Enable AI Channel**" field. There are two modes for the AI channels,

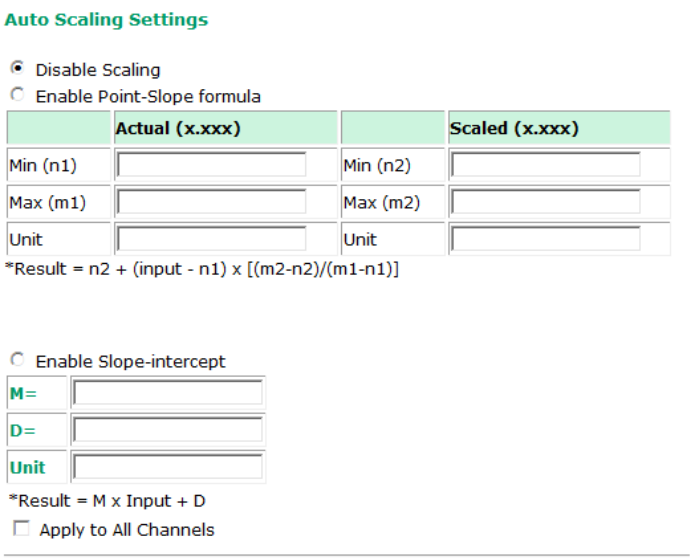
1. AI Input: **Voltage Mode** (ref to Jumper Setting)



2. AI Input: **Current Mode** (ref to Jumper Setting)



Auto Scaling and **Slope-intercept** functions of the AI value can be defined on this page.



AI Input Range

AI Input: **Voltage Mode: V** (ref to Jumper Setting)

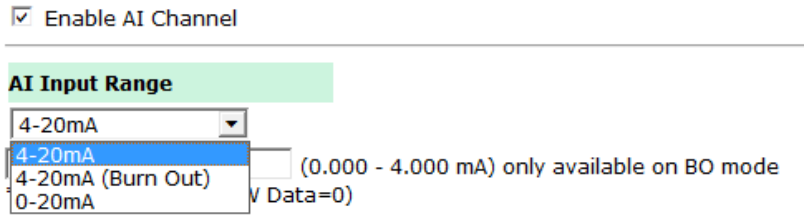
There is only one default analog "voltage" input range: [0-10V]

AI Input: **Current Mode: mA** (ref to Jumper Setting)

There are three modes in the analog "current" input range: [4-20 mA], [0-20 mA],[4-20 mA (burnout)]

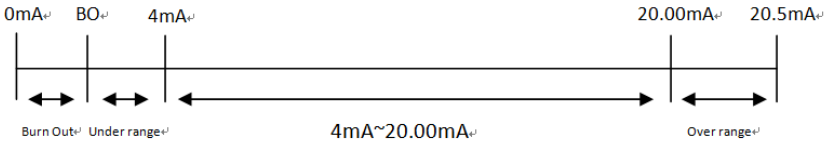
NOTE only [0-10 V] and [4-20 mA] supports peer to peer networking.

AI Input: **Current Mode**



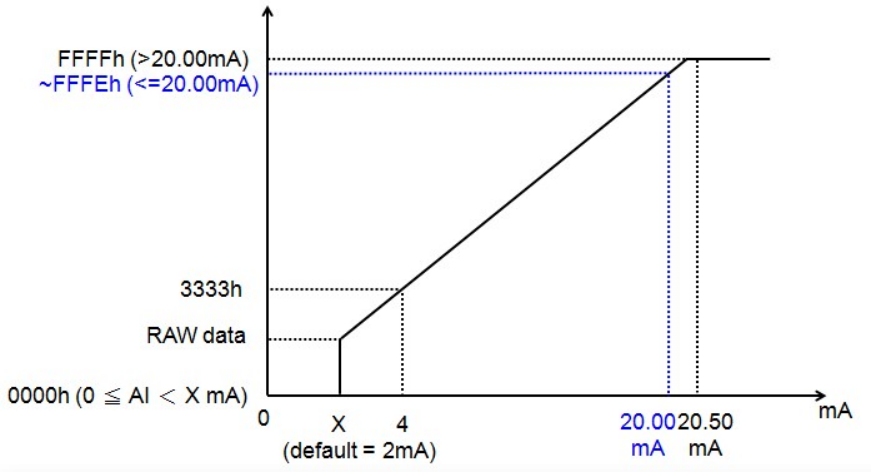
Burnout mode can indicate if the current analog input has burnt out.

The 4-20 mA burnout mode is defined in the diagram in the following



Users can define burnout values (BO, default 2mA) for selected ranges. When input values are in the burnout range, raw data will register as 0000h to indicate analog input burnout. The definition of raw data is as follows:

Burnout Value (BO)	0.0 < BO < 4.0	user defined (default 2mA)
Burnout State	0 ≦ AI < BO mA	S/W output 0000h
Under Range	BO ≦ AI < 4 mA	S/W output raw data
Normal Range	4≦ AI ≦ 20.00 mA	S/W output raw data until FFFEh.
Over Range	XX > 20.00 mA	S/W output FFFFh



ATTENTION

Remove the screw on the back panel and open the cover to configure the jumpers to select voltage or current measurement for the AI channels. Refer to chapter 2 for detailed jumper settings.

Enabling the **Auto Scaling: Point-Slope Formula** function will linearly convert the actual current or voltage value into other user defined units, such as percentage or ppm (parts per million).

Note that the scaled value's Modbus address differs from the original value.

Auto Scaling Settings

○ Disable Scaling
◉ Enable Point-Slope formula

	Actual (x.xxx)		Scaled (x.xxx)
Min (n1)	0.000	Min (n2)	0.000
Max (m1)	10.000	Max (m2)	1000.000
Unit	V	Unit	ppm

*Result = n2 + (input - n1) x [(m2-n2)/(m1-n1)]

The slope-intercept function is used to compensate when the measurement requires a slight adjustment.

◉ Enable Slope-intercept

M=	1.1
D=	0.02
Unit	V

*Result = M x Input + D

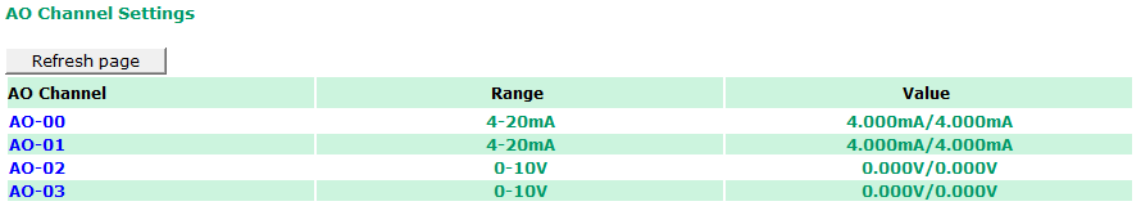
The Analog Input's **Alias Name** can also be configured on this page.

Alias Name of Channel AI

Submit Close

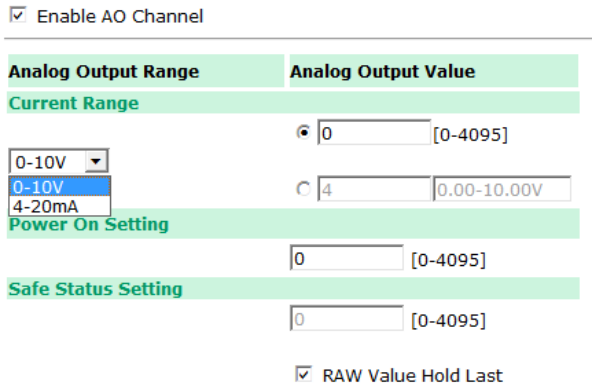
AO Channels

The current status of each AO (analog output) channel can be viewed on the I/O Setting: AO Channel page



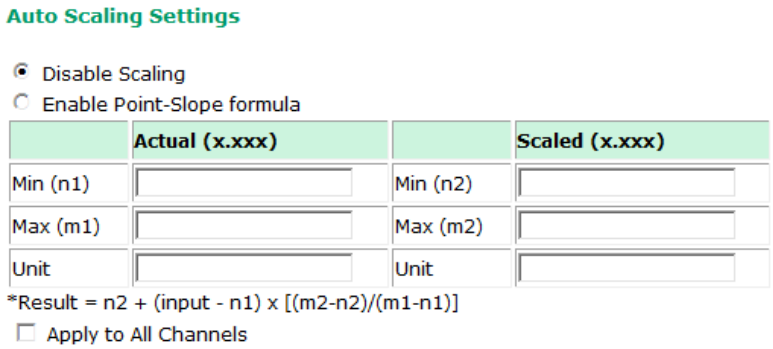
Click on a specific channel to access the AO channel settings, and then select the "**Enable AO Channel**" box. The Auto Scaling function of the AO value can be defined on the same page.

There are two modes for the AI channels, **Voltage Mode** (V) and **Current Mode** (mA)
(ref to Jumper Setting)

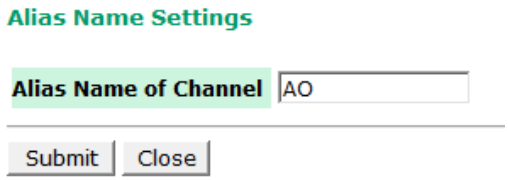


Enabling the **Auto Scaling: Point-Slope Formula** function will linearly convert the actual current or voltage value into other user defined units, such as percentage or ppm (parts per million).

Note that the scaled value's Modbus address differs from the original value.

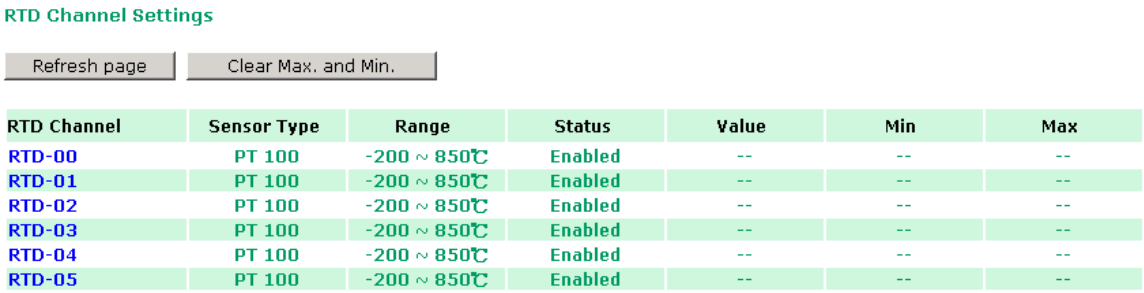


The Analog Output's **Alias Name** can also be configured on this page.



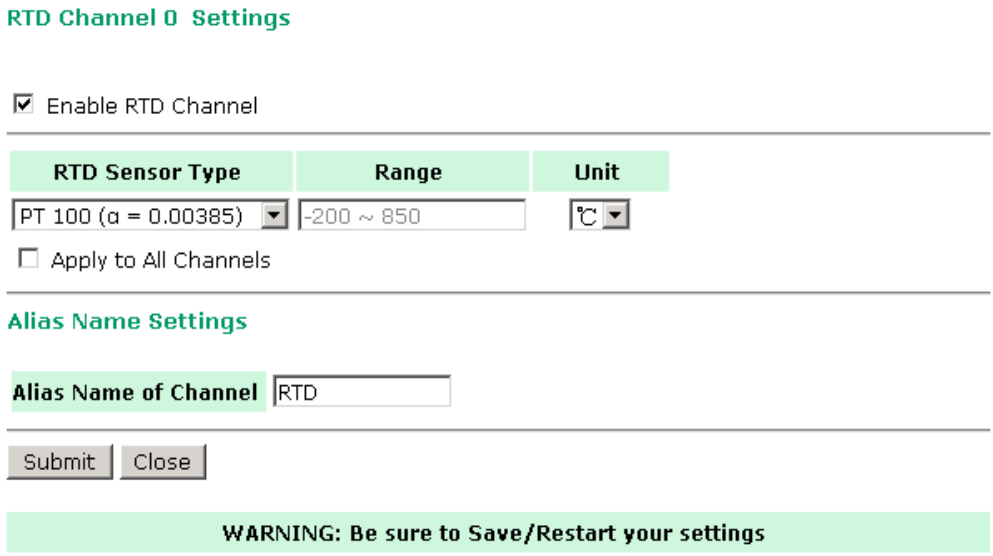
RTD Channels

The current status of each RTD (Resistance Temperature Detector) channel can be viewed on the RTD Channel page.

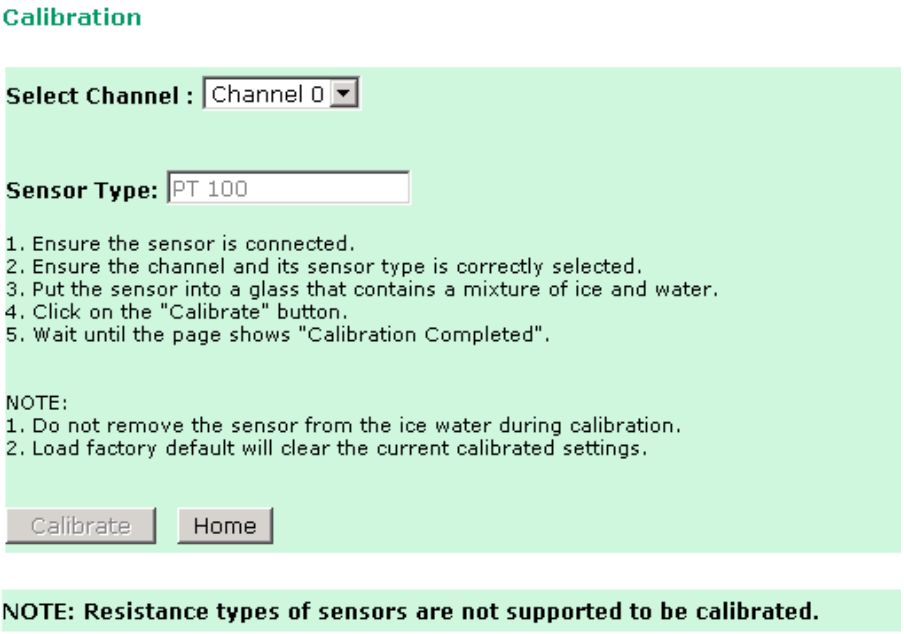

RTD Channel Settings
Refresh page
Clear Max. and Min.
RTD Channel
Sensor Type
Range
Status
Value
Min
Max
RTD-00 PT 100 -200 ~ 850℃ Enabled -- -- --
RTD-01 PT 100 -200 ~ 850℃ Enabled -- -- --
RTD-02 PT 100 -200 ~ 850℃ Enabled -- -- --
RTD-03 PT 100 -200 ~ 850℃ Enabled -- -- --
RTD-04 PT 100 -200 ~ 850℃ Enabled -- -- --
RTD-05 PT 100 -200 ~ 850℃ Enabled -- -- --

Click on a specific channel to access the RTD channel settings.

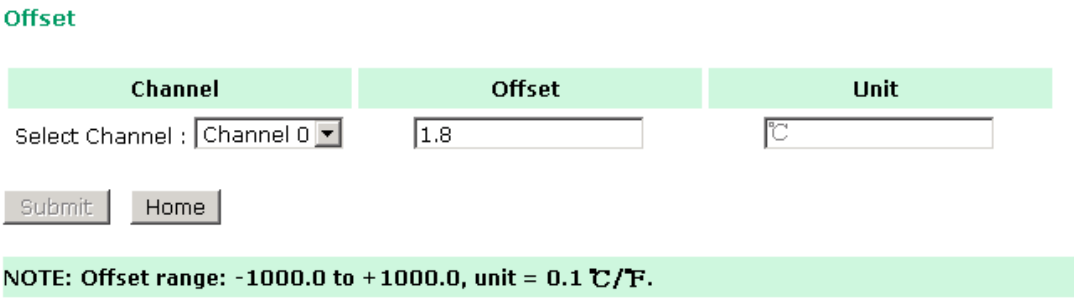
Select the **"Enable RTD Channel"** box and then select the sensor type that meets the physical attachment to the ioLogik E1200.



The ioLogik E1200 allows you to calibrate the temperature sensors. In each channel configuration section, follow the instructions and click **Calibrate** button to start the RTD sensor calibration. Each calibration requires around 30 seconds (per channel).

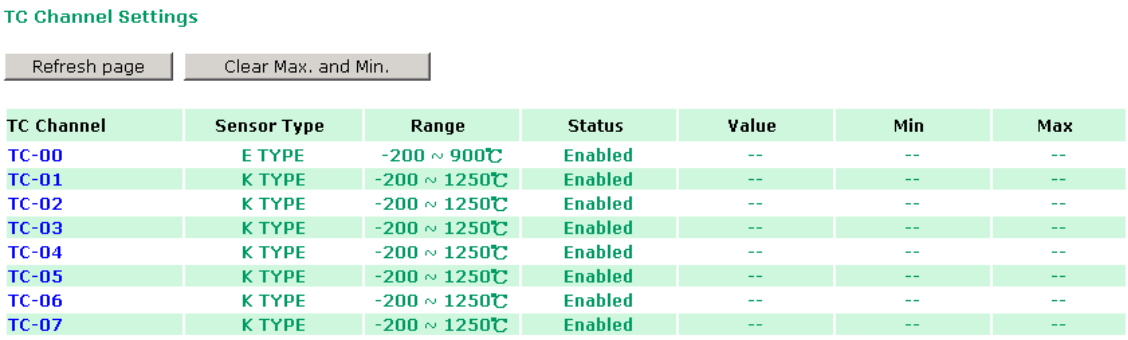

Calibration
Select Channel : Channel 0
Sensor Type: PT 100
1. Ensure the sensor is connected.
2. Ensure the channel and its sensor type is correctly selected.
3. Put the sensor into a glass that contains a mixture of ice and water.
4. Click on the "Calibrate" button.
5. Wait until the page shows "Calibration Completed".
NOTE:
1. Do not remove the sensor from the ice water during calibration.
2. Load factory default will clear the current calibrated settings.
Calibrate
Home
NOTE: Resistance types of sensors are not supported to be calibrated.

The ioLogik E1200 allows you to manually adjust the current temperature reading. In each channel configuration section, select the channel, apply the offset value, and click the **"Submit"** button to perform the task.

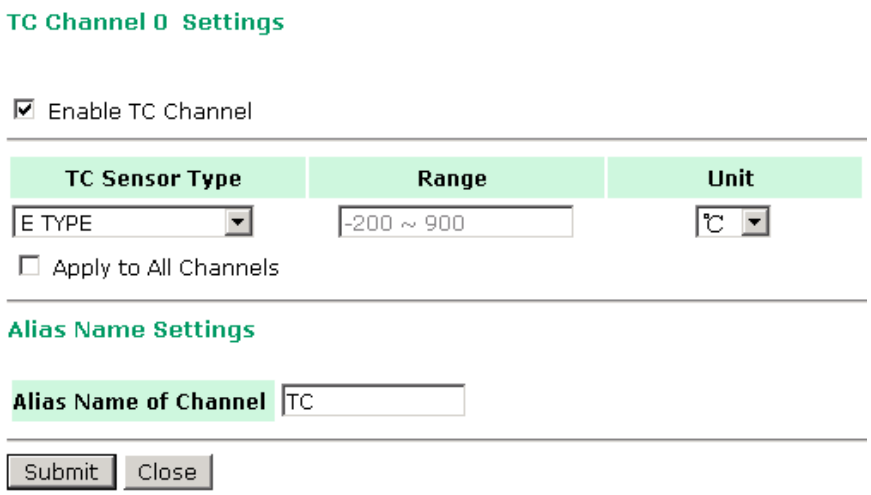


TC Channels

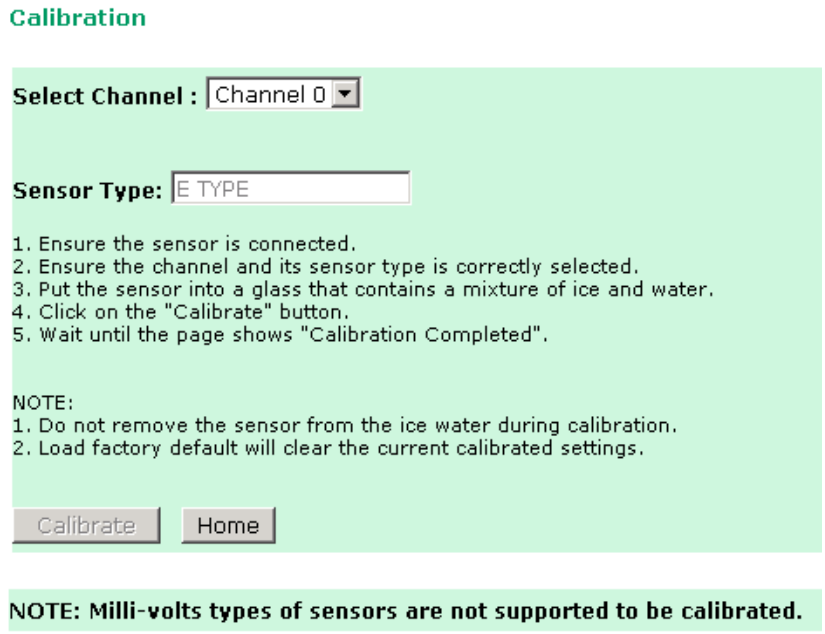
The current status of each TC (Thermocouple) channel can be viewed on the TC Channel page.


TC Channel Settings
Refresh page
Clear Max. and Min.
TC Channel Sensor Type Range Status Value Min Max
TC-00 E TYPE -200 ~ 900℃ Enabled -- -- --
TC-01 K TYPE -200 ~ 1250℃ Enabled -- -- --
TC-02 K TYPE -200 ~ 1250℃ Enabled -- -- --
TC-03 K TYPE -200 ~ 1250℃ Enabled -- -- --
TC-04 K TYPE -200 ~ 1250℃ Enabled -- -- --
TC-05 K TYPE -200 ~ 1250℃ Enabled -- -- --
TC-06 K TYPE -200 ~ 1250℃ Enabled -- -- --
TC-07 K TYPE -200 ~ 1250℃ Enabled -- -- --

Click on a specific channel to access the enabling or disabling of the TC channel. Select the **"Enable TC Channel"** box and then select the sensor type that meets the physical attachment to the ioLogik E1200.

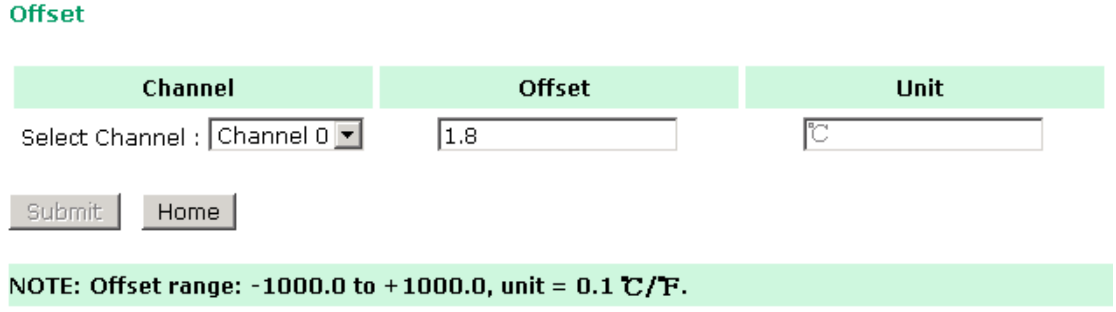


The ioLogik E1200 allows you to calibrate the temperature sensors. In each channel configuration section, follow the instructions and click the **"Calibrate"** button to start the TC sensor calibration. Each calibration requires about 30 seconds (per channel).


Calibration
Select Channel :
Channel 0
Sensor Type:
E TYPE
1. Ensure the sensor is connected.
2. Ensure the channel and its sensor type is correctly selected.
3. Put the sensor into a glass that contains a mixture of ice and water.
4. Click on the "Calibrate" button.
5. Wait until the page shows "Calibration Completed".
NOTE:
1. Do not remove the sensor from the ice water during calibration.
2. Load factory default will clear the current calibrated settings.
Calibrate
Home

NOTE: Milli-volts types of sensors are not supported to be calibrated.

The ioLogik E1200 allows you to manually adjust the current temperature reading. In each channel configuration section, select the channel, apply the offset value, and click the **"Submit"** button to perform the task.

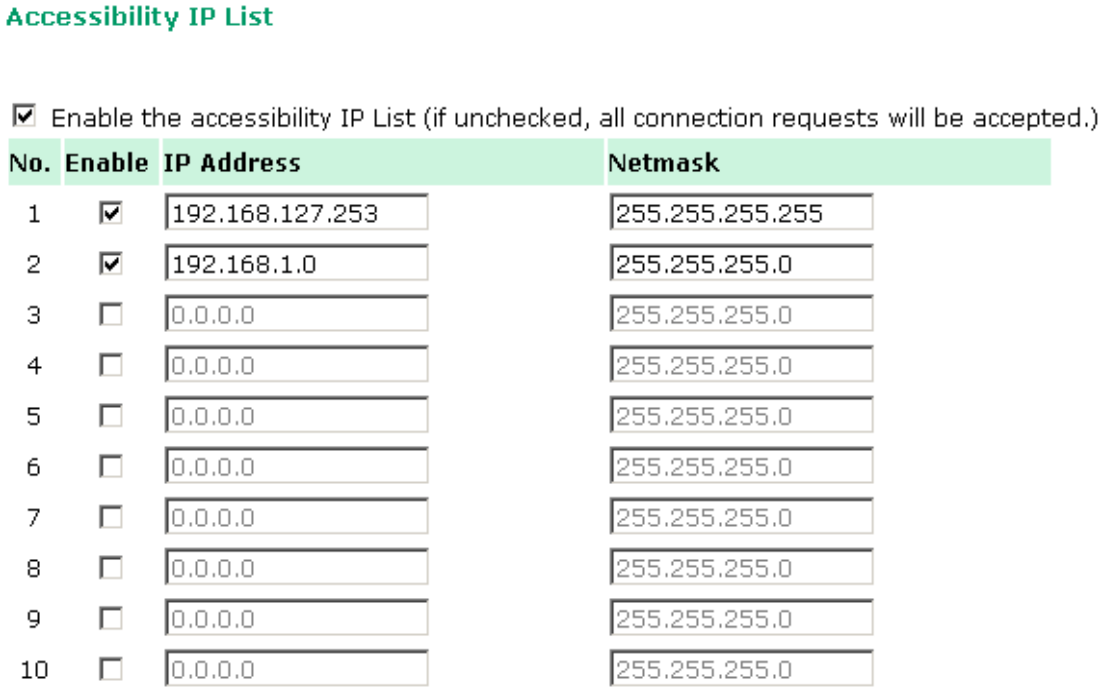


NOTE: Offset range: -1000.0 to +1000.0, unit = 0.1 ℃/℉.

System Management

IP Accessibility

You can control network access to the ioLogik E1200 from the IP Accessibility page by only allowing access from specific IP addresses. When the accessible IP list is enabled, a host's IP address must be listed in order to gain access to the ioLogik E1200.



Specify a range of addresses by using a combination of an IP address and netmask, as follows:

To allow access to a specific IP address

Enter the IP address in the corresponding field; enter **255.255.255.255** for the netmask.

To allow access to hosts on a specific subnet

For both the IP address and netmask, use **0** for the last digit (e.g., **192.168.1.0** and **255.255.255.0**).

To allow unrestricted access

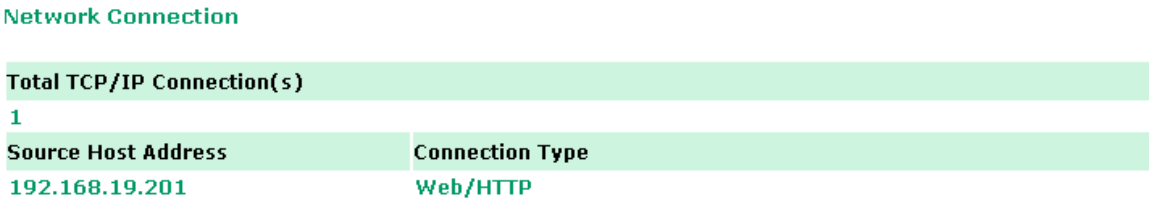
Deselect the **Enable the accessible IP list** option.

Refer to the following table for additional configuration examples.

Allowed Hosts	IP address/Netmask
Any host	Disable
192.168.1.120	192.168.1.120 / 255.255.255.255
192.168.1.1 to 192.168.1.254	192.168.1.0 / 255.255.255.0
192.168.0.1 to 192.168.255.254	192.168.0.0 / 255.255.0.0
192.168.1.1 to 192.168.1.126	192.168.1.0 / 255.255.255.128
192.168.1.129 to 192.168.1.254	192.168.1.128 / 255.255.255.128

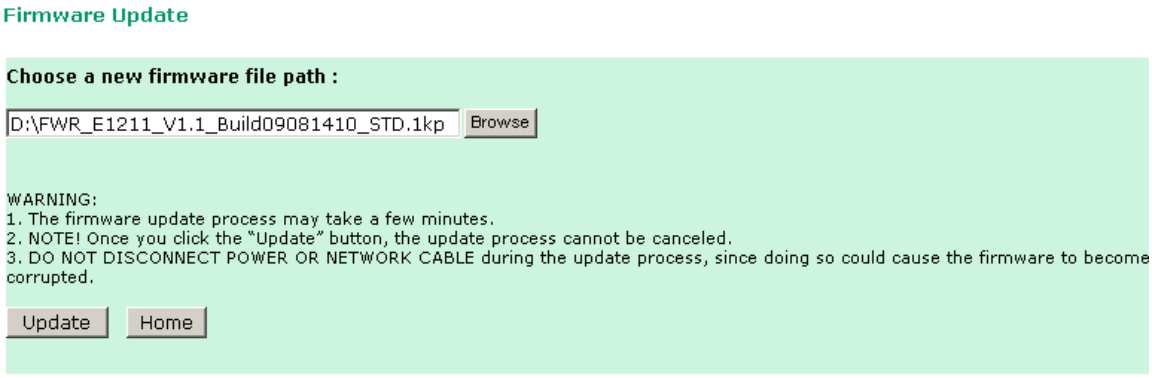
Network Connection

TCP connections from other hosts appear on the Network Connection page. This information can assist you with managing your devices.



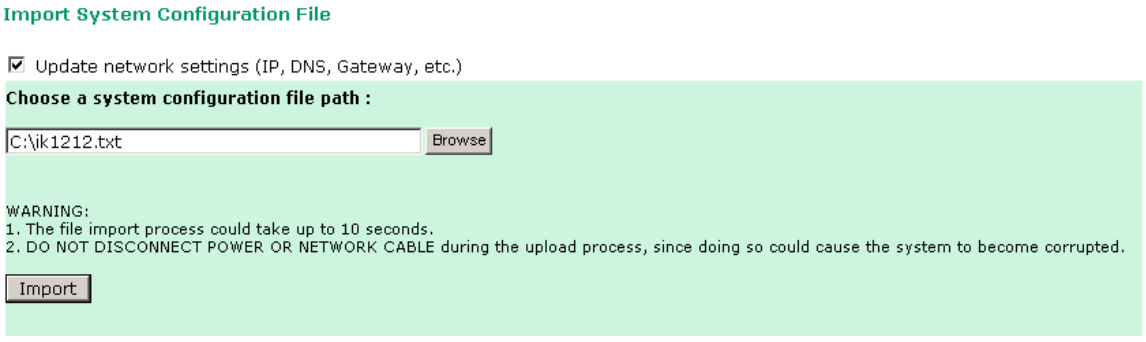
Firmware Update

Load new or updated firmware onto the ioLogik from the Firmware Update page.


Firmware Update
Choose a new firmware file path :
D:\FWR_E1211_V1.1_Build09081410_STD.1kp
Browse
WARNING:
1. The firmware update process may take a few minutes.
2. NOTE! Once you click the "Update" button, the update process cannot be canceled.
3. DO NOT DISCONNECT POWER OR NETWORK CABLE during the update process, since doing so could cause the firmware to become corrupted.
Update
Home

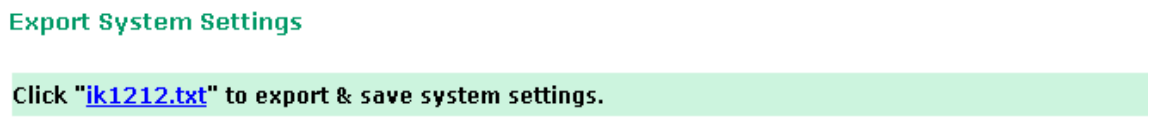
Import System Configuration Settings

Import a configuration into the ioLogik server from the Import System Config page. This function can be used to duplicate settings between ioLogik servers. You will be prompted for the location of the configuration file (i.e., "ik1212.txt").


Import System Configuration File
Update network settings (IP, DNS, Gateway, etc.)
Choose a system configuration file path :
C:\ik1212.txt
Browse
WARNING:
1. The file import process could take up to 10 seconds.
2. DO NOT DISCONNECT POWER OR NETWORK CABLE during the upload process, since doing so could cause the system to become corrupted.
Import

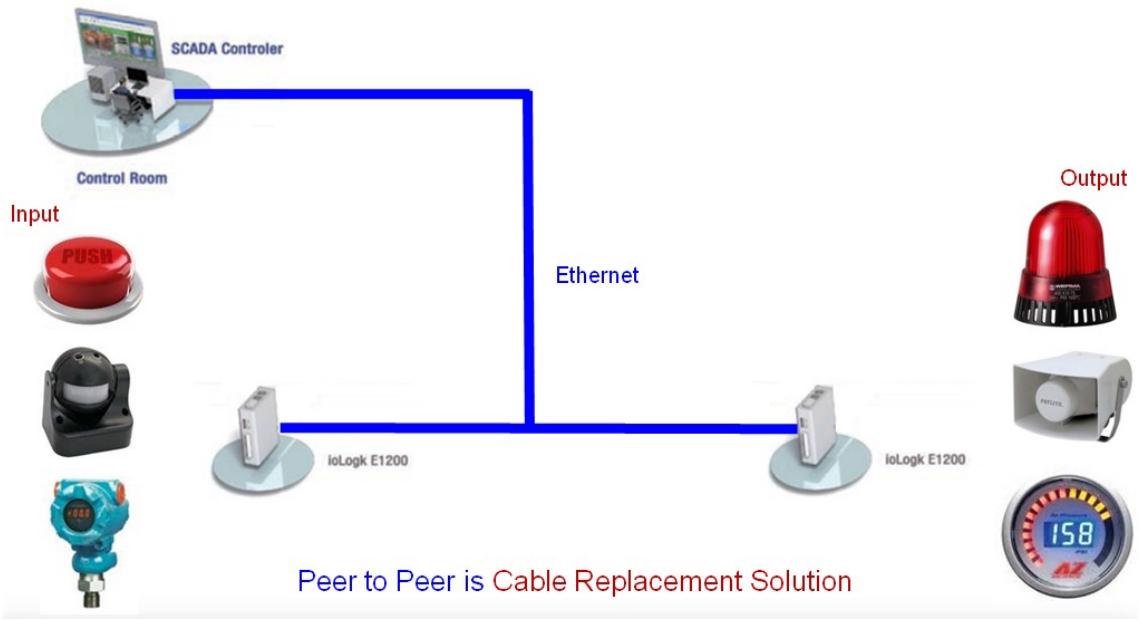
Export System Configuration Settings

On the Export System Config page, you can save the ioLogik's configuration into a file for backup or import into another ioLogik server.



Peer-to-peer Settings

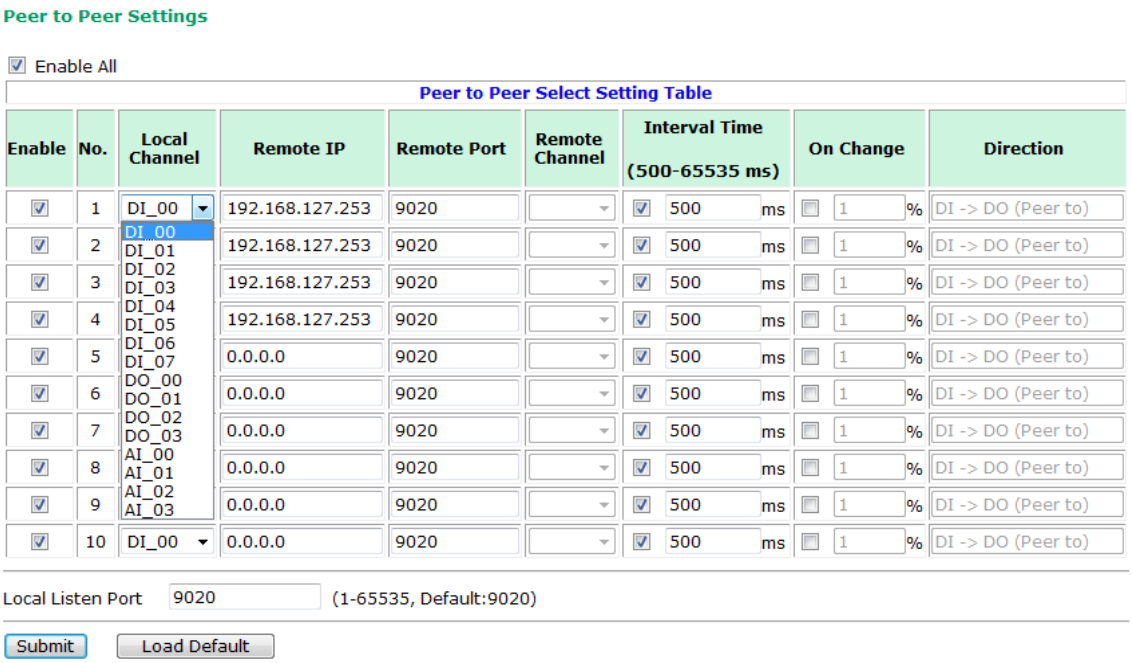
In some remote automation implementations, the control room and sensors are located quite far away from each other, often with only a single remote I/O module to collect data from all the sensors. Peer-to-peer communication has little or no limitation as it replaces cable by integrating multiple I/O signals over a single network cable to transmit input-to-output controls without the aid of PLCs or controllers. Featuring peer-to-peer communications and support for channel-to-channel mapping, the ioLogik E1200 allows simultaneous multiple target transmissions. In addition, the ioLogik E1200 supports up to 16 channels for transmission over Ethernet (based on an emitter and receiver I/O pair).



Peer-to-peer Settings (1-50)

The ioLogik E1200 supports up to 50 peer-to-peer mapping rules. You can configure the channel settings 10 at a time. To enable the rules, either select the **Enable All** box to enable all 10 channels, or select the **Enable** box individually for each rule. The **Local Channel** drop-down menu allows you to specify the channel of the ioLogik E1200 to configure. Type the IP address and port number of a remote ioLogik E1200 in the **Remote IP** and **Remote Ports** fields, respectively. The **Remote Channel** field is for you to select input channels of the remote ioLogik E1200 when you select output channels in the **Local Channel** field. Set the **Interval Time** and **On change** percentage on the local ioLogik E1200 that will trigger the transmission of a mapping signal to the remote ioLogik E1200. The default local listen port number is 9020; this value can be set between 1 to 65535.

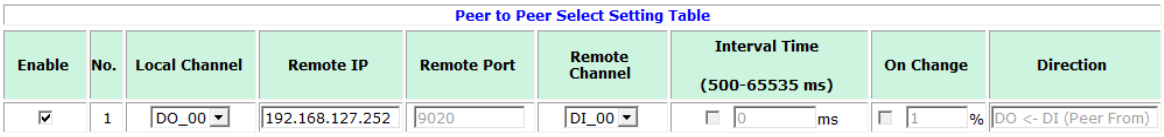
NOTE If you select a DI or AI channel in the Local Channel field, the Remote Channel field will be disabled. You need to configure the DO or AO channel on the remote ioLogik E1200.


Peer to Peer Settings
Enable All
Peer to Peer Select Setting Table
Enable
No.
Local Channel
Remote IP
Remote Port
Remote Channel
Interval Time (500-65535 ms)
On Change
Direction
1 DI_00 192.168.127.253 9020 500 ms 1 % DI -> DO (Peer to)
2 192.168.127.253 9020 500 ms 1 % DI -> DO (Peer to)
3 192.168.127.253 9020 500 ms 1 % DI -> DO (Peer to)
4 192.168.127.253 9020 500 ms 1 % DI -> DO (Peer to)
5 0.0.0.0 9020 500 ms 1 % DI -> DO (Peer to)
6 0.0.0.0 9020 500 ms 1 % DI -> DO (Peer to)
7 0.0.0.0 9020 500 ms 1 % DI -> DO (Peer to)
8 0.0.0.0 9020 500 ms 1 % DI -> DO (Peer to)
9 0.0.0.0 9020 500 ms 1 % DI -> DO (Peer to)
10 DI_00 0.0.0.0 9020 500 ms 1 % DI -> DO (Peer to)
DI_00
DI_01
DI_02
DI_03
DI_04
DI_05
DI_06
DI_07
DO_00
DO_01
DO_02
DO_03
AI_00
AI_01
AI_02
AI_03
Local Listen Port 9020 (1-65535, Default:9020)
Submit
Load Default

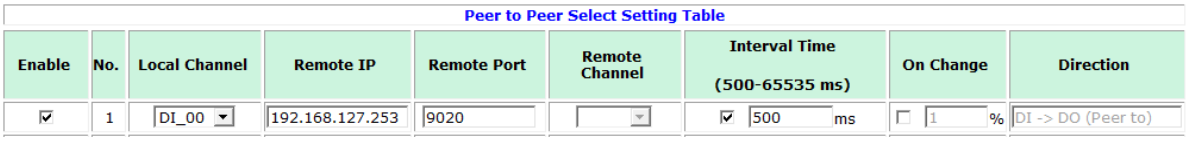
Sample Peer-to-Peer Configuration

The following is an example of configuring DO (Server IP: 192.168.127.253) to DI (Client IP: 192.168.127.252) peer-to-peer functionality with two ioLogik E1200 devices.

Server settings:



Client settings:

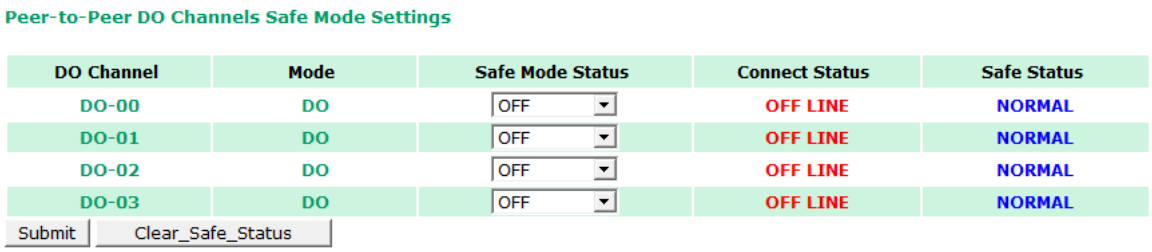


Note: refer to the table below for maximum number of rules supported at different signal frequencies.

	1 Hz	2 Hz	4 Hz	10 Hz	20 Hz
1 rule	✓	✓	✓	✓	✓
10 rules	✓	✓	✓		
20 rules	✓	✓	✓		
30 rules	✓	✓			
40 rules	✓	✓			
50 rules	✓				

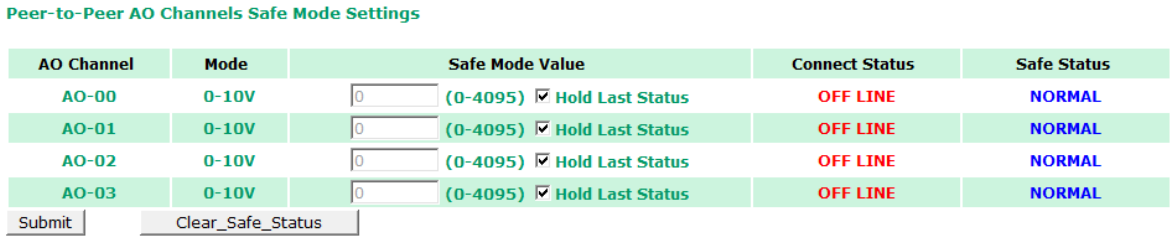
DO Safe Mode Settings

When a peer-to-peer rule on a local DO channel is not valid, the local DO channel will enter safe mode. You can set the DO to be Hold Last, ON, or OFF in safe mode.



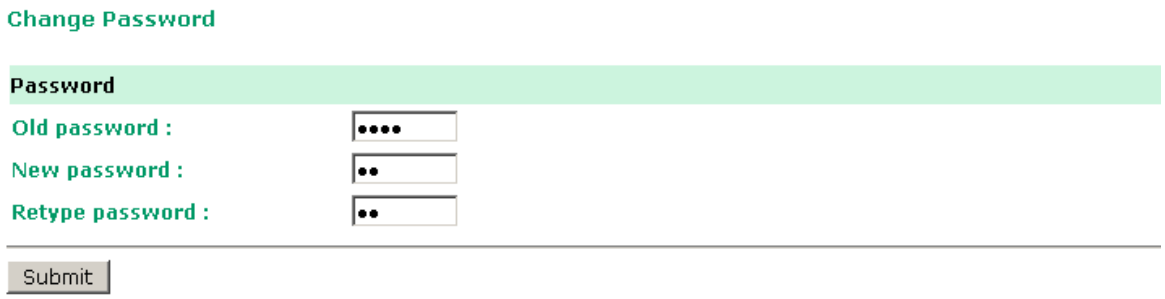
AO Safe Mode Settings

When a peer-to-peer rule of the local AO channel is not valid, the local AO channel will enter safe mode. You can either set the AO safe value from 0-4095 or enable Hold Last Status during Safe Mode.



Change Password

For all changes to the ioLogik E1200's password protection settings, you will first need to enter the old password. Leave this blank if you are setting up password protection for the first time. To set up a new password or change the existing password, enter your desired password under both **New password** and **Confirm password**. To remove password protection, leave the **New password** and **Confirm password** fields blank.



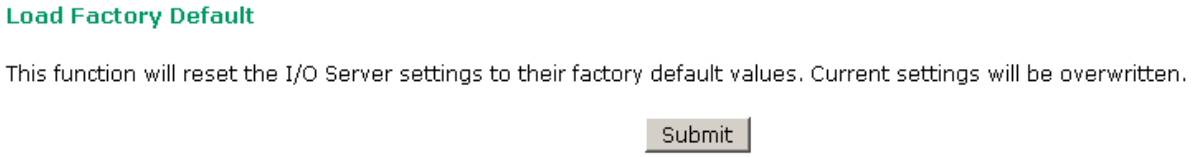
ATTENTION

If you forget the password, the ONLY way to configure the ioLogik E1200 is by using the reset button to load the factory defaults.

Before you set a password for the first time, it is a good idea to export the configuration to a file when you have finished setting up your ioLogik E1200. Your configuration can then be easily imported back into the ioLogik E1200 if you need to reset the ioLogik E1200 due to a forgotten password or for other reasons.

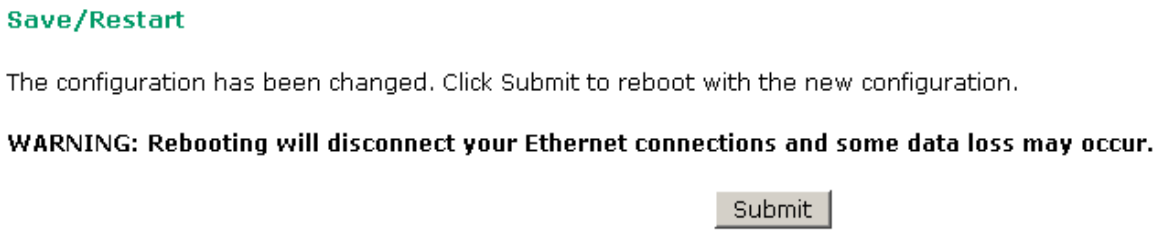
Load Factory Defaults

This function will reset all of the ioLogik E1200's settings to the factory default values. All previous settings, including the console password will be lost.


Load Factory Default
This function will reset the I/O Server settings to their factory default values. Current settings will be overwritten.
Submit

Save/Restart

If you change the configuration, do not forget to reboot the system.


Save/Restart
The configuration has been changed. Click Submit to reboot with the new configuration.
WARNING: Rebooting will disconnect your Ethernet connections and some data loss may occur.
Submit

4

Using ioSearch

This chapter describes ioSearch, which is used to search for and locate ioLogik E1200 units.

The following topics are covered in this chapter:

- **Introduction to ioSearch**
- **ioSearch Main Screen**
  - Main Screen Overview
- **Main Items**
  - System
  - Sort
  - Quick Links
- **Main Function**
  - Locate
  - Firmware Upgrade
  - Unlock
  - Import
  - Export
  - Change IP Address
  - Batch TCP/IP Configuration on Multiple Devices
  - Restart System
  - Reset to Default
  - Mass Deployment (Import)
  - Mass Deployment (export)

Introduction to ioSearch

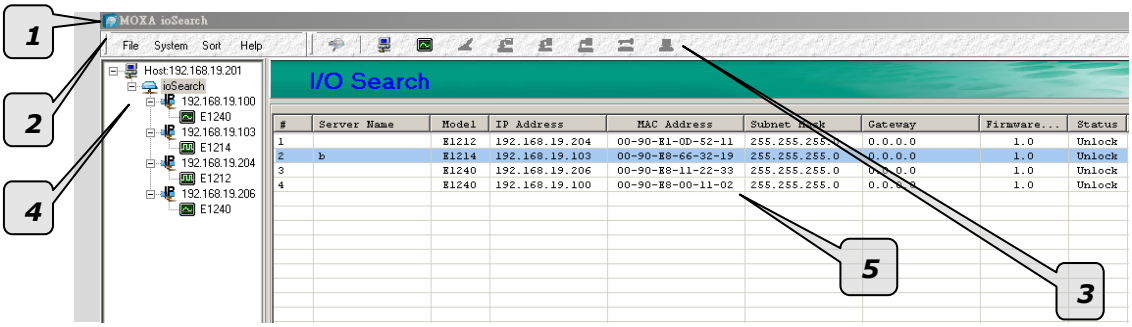
ioSearch is for locating or searching for an Logik E1200 on the physical network. The following functions are supported by the ioSearch utility.

- Search for and locate ioLogik E1200 units.
- IP address configuration.
- Firmware upgrade for multiple ioLogik E1200 units (same model).
- Export configuration files from multiple ioLogik E1200 units.
- Import a configuration file to multiple ioLogik E1200 units (same model).
- Reset to default for multiple ioLogik E1200 units.

ioSearch Main Screen

Main Screen Overview

The main screen displays the result of the broadcast search of the ioLogik E1200.



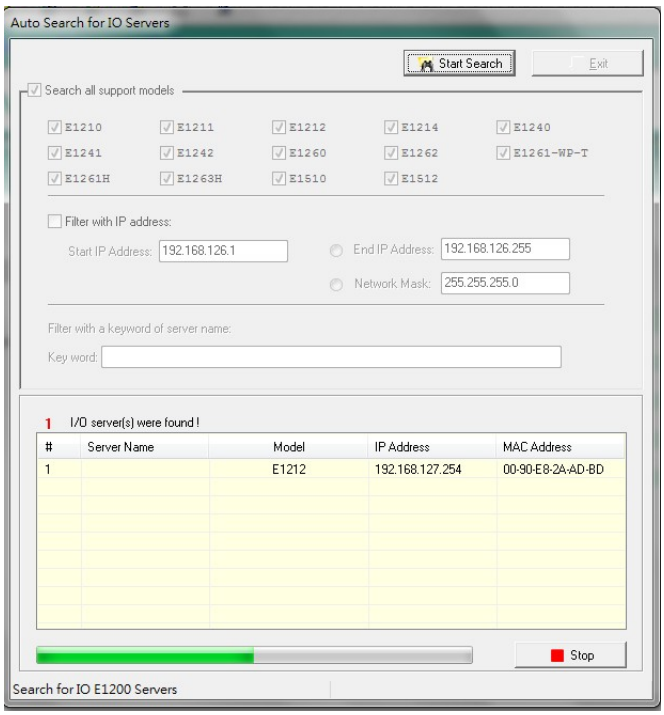
ioSearch Main Screen
1. Title
2. Menu bar
3. Quick link
4. Navigation panel
5. Main window

ioSearch Setup

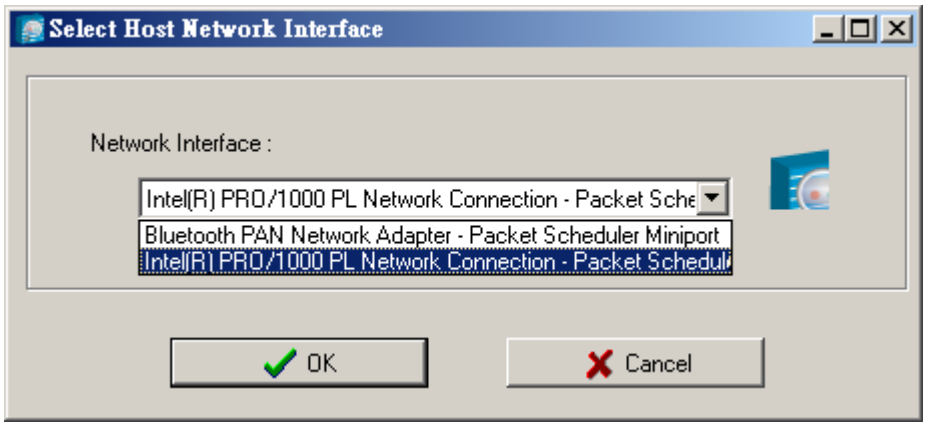
System

Several operations are possible from the **System** menu.

Auto Scan Active Ethernet I/O Servers will search for ioLogik servers on the network. When connecting for the first time or recovering from a network disconnection, you can use this command to find I/O servers that are on the network.

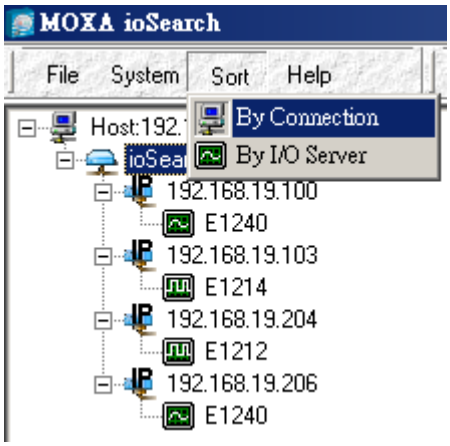


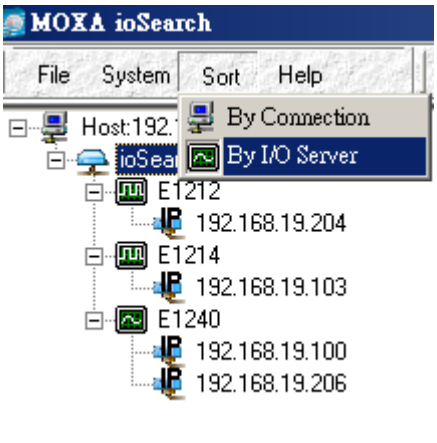
Network Interface allows you to select a network to use, if the PC has multiple network adaptors installed.


Select Host Network Interface
Network Interface :
Intel(R) PRO/1000 PL Network Connection - Packet Sche
Bluetooth PAN Network Adapter - Packet Scheduler Miniport
Intel(R) PRO/1000 PL Network Connection - Packet Schedul
OK
Cancel

Sort

The **Sort** menu allows the server list in the navigation panel to be sorted by ioLogik connection and server (model).





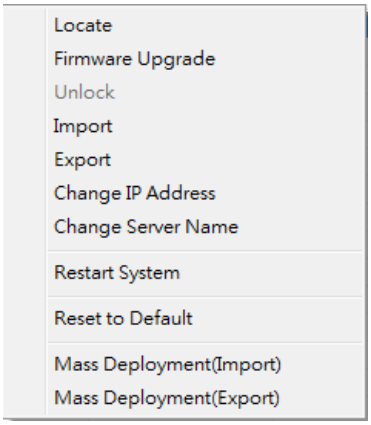
Quick Links

Quick links are provided to search for I/O servers on the network and sort the server list.

1	Automatically search the local network
2	Sort by ioLogik E1200's IP address (connection)
3	Sort by ioLogik E1200 model
4	Locate an ioLogik E1200
5	Upgrade Firmware
6	Import settings
7	Export settings
8	Unlock an ioLogik E1200 which is password protected
9	Change IP Address of an ioLogik E1200

Main Function

Right click on a particular ioLogik E1200 to view the ioSearch function menu.



Locate

The locate function helps users find a dedicated ioLogik on the network. When this function is triggered, the ready LED on the selected unit will start to blink indicating its location.

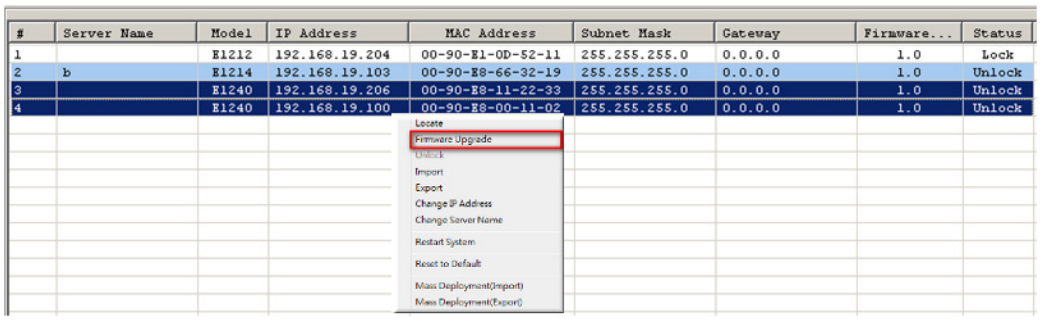
Locate Server
Server Name Model IP Address MAC Address Firmware Ver. Status
1 E1240 192.168.19.100 00-90-E8-00-11-02 1.0 Unlock
NOTE: The device LED will blink until the stop button is pressed.
Stop

Firmware Upgrade

The ioLogik E1200 supports a remote firmware upgrade function. Enter the path to the firmware file or click on the icon to browse for the file. The wizard will lead you through the process until the server is restarted.

Batch Upgrades on Multiple Devices of the Same Model

Batch firmware upgrades are possible on multiple devices of the same ioLogik model. To upgrade multiple models, press the **"Shift"** key, select **"ioLogik"**, and right click to process multiple firmware upgrades.

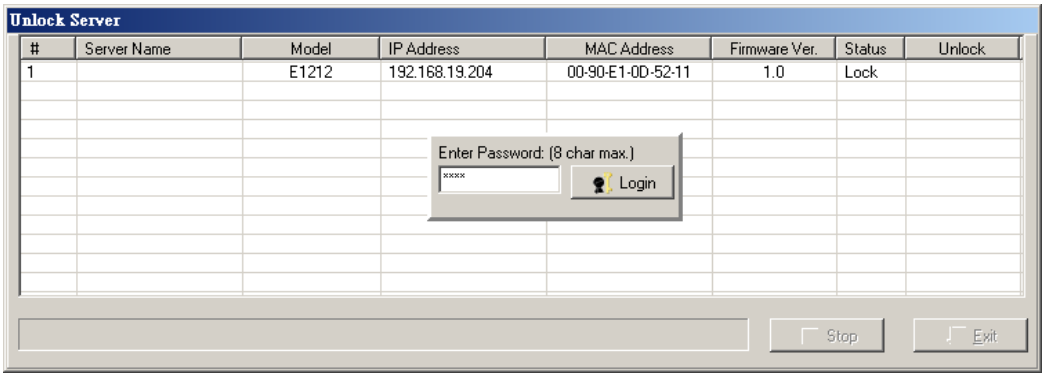


ATTENTION

Do not interrupt the firmware update process! An interruption in the process may result in your device becoming unrecoverable.

Unlock

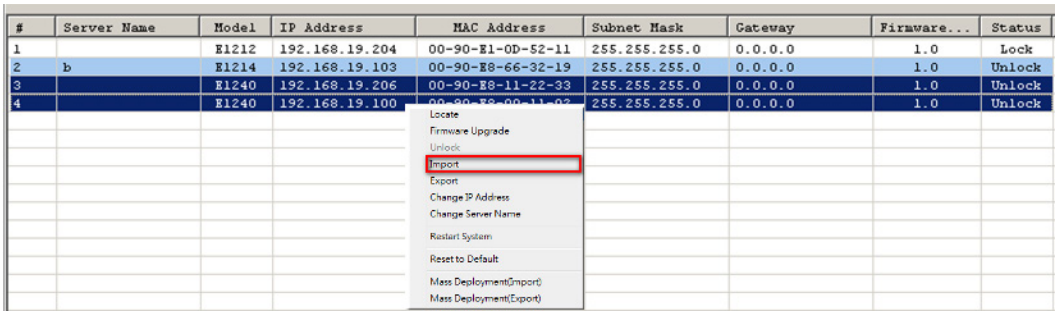
If an ioLogik E1200 is password protected, unlock the ioLogik E1200 by entering the password before using any of the functions.



Import

Select this command to reload a configuration that was exported to a text file.

Importing one configuration file to multiple ioLogik E1200 units (same model) is allowed. To do this, press the **"Shift"** key, select **"ioLogik"**, and then right click.



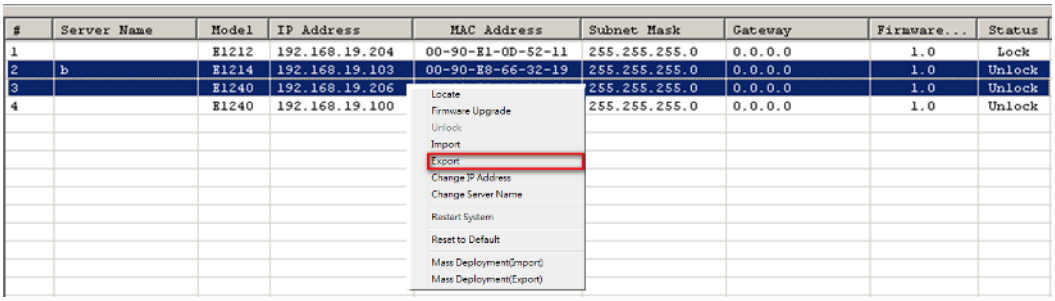
Export

The export function is used to export the current configuration file of an ioLogik E1200. The export file format will be **ik12xx.txt** where "xx" represents the model type of the ioLogik E1200.

Exporting multiple files for different models of ioLogik E1200 is allowed. The file format is **ik12xx_MAC Address.txt**, where the xx represents the model types of the ioLogik E1200.

e.g., ik1214_00-90-E8-66-32-19.txt

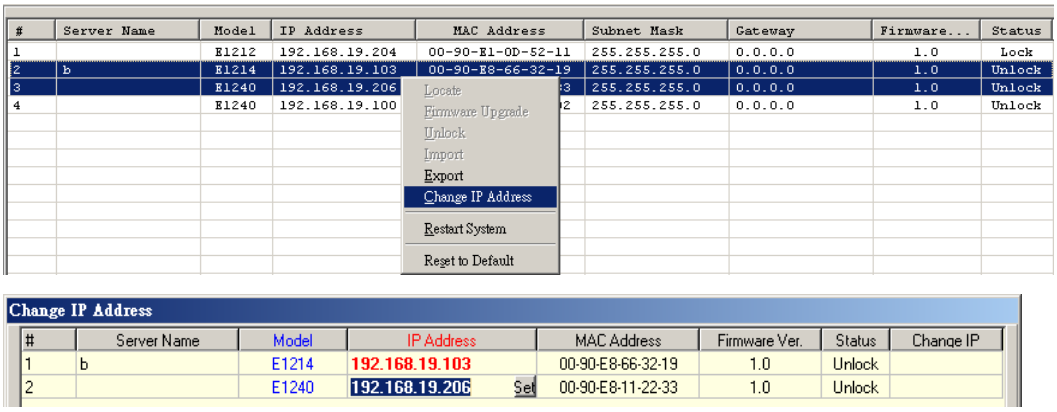
To export multiple configuration files, select the ioLogik and right click to process this function.



Change IP Address

The Change IP Address function can be used to directly modify the IP Address, especially for first time installation.

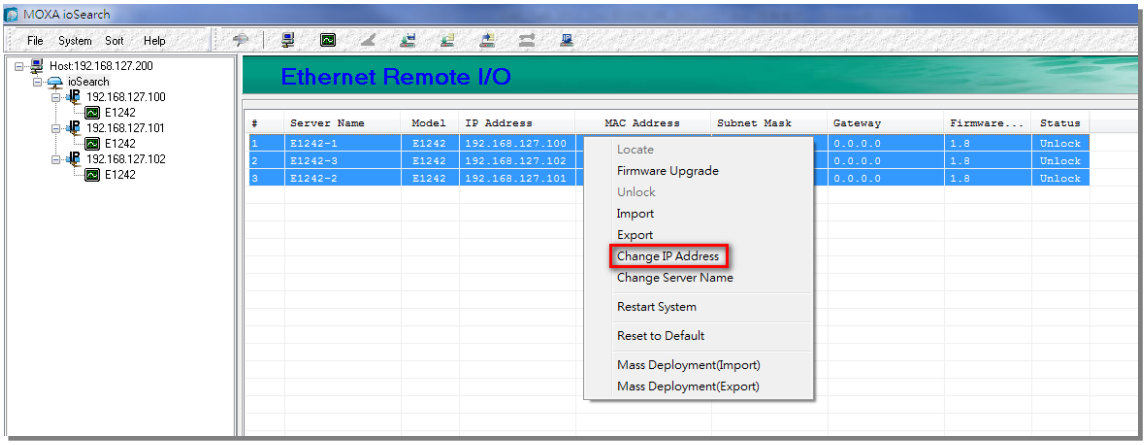
Changing the IP address for multiple ioLogik E1200's is allowed. Select the ioLogik E1200 and then right click to process this function.



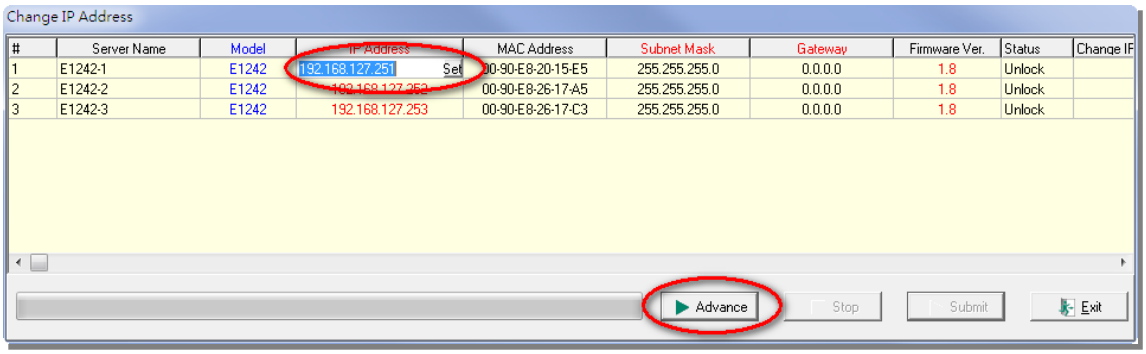
Change IP Address
Server Name Model IP Address MAC Address Firmware Ver. Status Change IP
1 b E1214 192.168.19.103 00-90-E8-66-32-19 1.0 Unlock
2 E1240 192.168.19.206 Set 00-90-E8-11-22-33 1.0 Unlock

Batch TCP/IP Configuration on Multiple Devices

Users can batch modify IP addresses, subnet masks, and gateways for devices of the same model from a single window while submitting the changes at one time. First, select several devices of the same model, click the right mouse button, and then click **"Change IP Address"** in the pop-up menu to launch a new window.



The following screenshot shows the window used to modify IP addresses, subnet masks, and gateways. Users can modify each item and click **"Set"** to confirm the modification, or click the **"Advance"** button to automatically assign IP addresses incrementally.

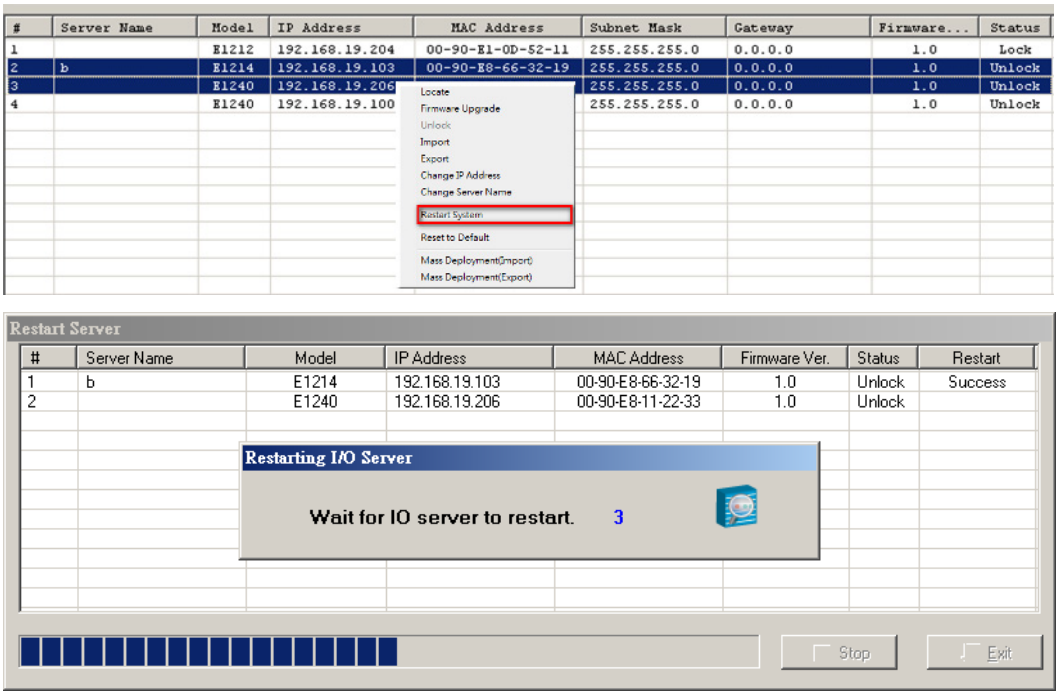

Change IP Address
Server Name Model IP Address MAC Address Subnet Mask Gateway Firmware Ver. Status Change IP
1 E1242-1 E1242 192.168.127.251 Set 00-90-E8-20-15-E5 255.255.255.0 0.0.0.0 1.8 Unlock
2 E1242-2 E1242 00-90-E8-26-17-A5 255.255.255.0 0.0.0.0 1.8 Unlock
3 E1242-3 E1242 192.168.127.253 00-90-E8-26-17-C3 255.255.255.0 0.0.0.0 1.8 Unlock
Advance
Stop
Submit
Exit

After the **"Advance"** button is clicked, a window will pop up to allow users to use ioSearch to set the IP address by MAC address. ioSearch will automatically set sequential IP addresses on the selected devices, with the subnet mask and gateway set to the same value.

Restart System

Select this command to restart the selected ioLogik E1200.

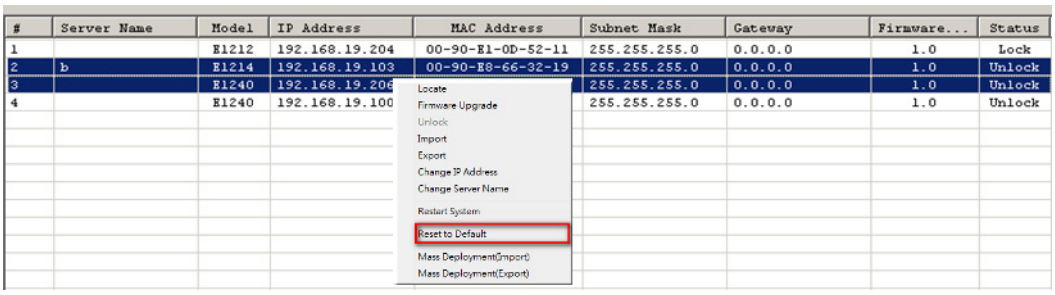
Restarting multiple ioLogik E1200 units is allowed. Select the ioLogik E1200 and right click to process this function.


Server Name Model IP Address MAC Address Subnet Mask Gateway Firmware... Status
1 E1212 192.168.19.204 00-90-E1-0D-52-11 255.255.255.0 0.0.0.0 1.0 Lock
2 b E1214 192.168.19.103 00-90-E8-66-32-19 255.255.255.0 0.0.0.0 1.0 Unlock
3 E1240 192.168.19.206 255.255.255.0 0.0.0.0 1.0 Unlock
4 E1240 192.168.19.100 255.255.255.0 0.0.0.0 1.0 Unlock
Locate
Firmware Upgrade
Unlock
Import
Export
Change IP Address
Change Server Name
Restart System
Reset to Default
Mass Deployment(Import)
Mass Deployment(Export)
Restart Server
Server Name Model IP Address MAC Address Firmware Ver. Status Restart
1 b E1214 192.168.19.103 00-90-E8-66-32-19 1.0 Unlock Success
2 E1240 192.168.19.206 00-90-E8-11-22-33 1.0 Unlock
Restarting I/O Server
Wait for IO server to restart. 3
Stop
Exit

Reset to Default

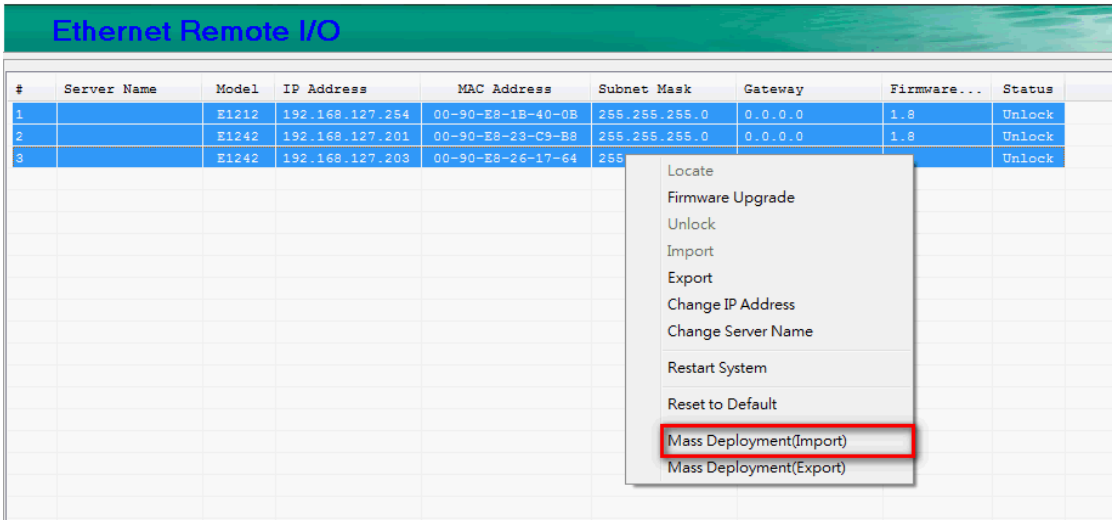
Select this function to reset all settings, including console password, to factory default values.

Resetting multiple ioLogik E1200 units to the default configuration is allowed. Select the ioLogik E1200 and right click to process this function.



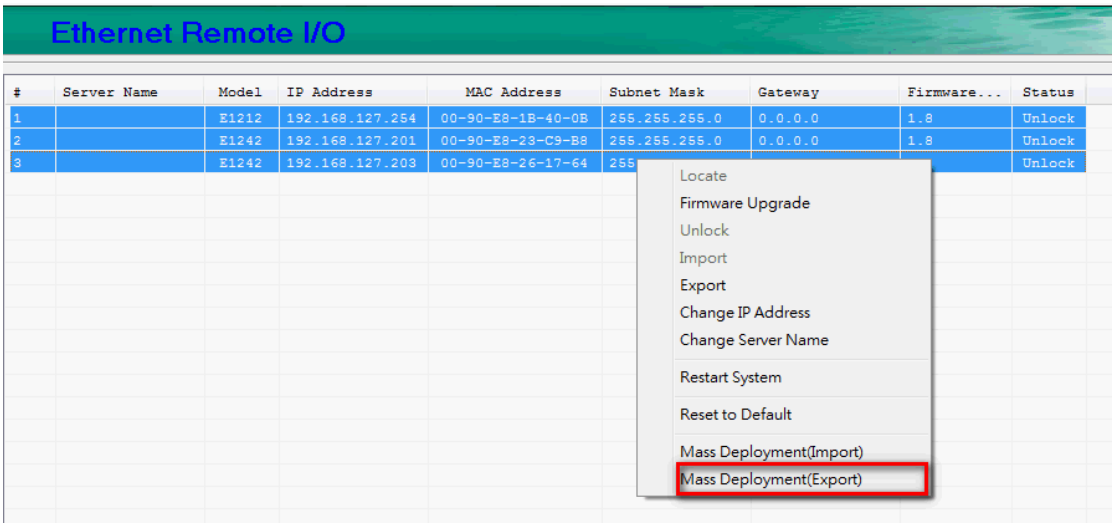
Mass Deployment (Import)

Users can import E1200 series module information via ioSearch. Select this command to reload a configuration from an exported .CSV file.



Mass Deployment (export)

Users can export E1200 series module information via ioSearch. The export file format will be **E1200_Series_List**.



A

Modbus/TCP Default Address Mappings

The following topics are covered in this appendix:

- **E1210 Modbus Mapping**
- **E1211 Modbus Mapping**
- **E1212 Modbus Mapping**
- **E1214 Modbus Mapping**
- **E1240 Modbus Mapping**
- **E1241 Modbus Mapping**
- **E1242 Modbus Mapping**
- **E1260 Modbus Mapping**
- **E1262 Modbus Mapping**

NOTE The Modbus/TCP ID of the ioLogik E1200 is set to "1" by default.

E1210 Modbus Mapping

0xxxx Read/Write Coils (Functions 1, 5, 15)

Reference	Address	Data Type	Description
00257	0x0100	1 bit	CH0 DI Counter Operate Status 0: Stop 1: Start(R/W)
00258	0x0101	1 bit	CH1 DI Counter Operate Status 0: Stop 1: Start(R/W)
00259	0x0102	1 bit	CH2 DI Counter Operate Status 0: Stop 1: Start(R/W)
00260	0x0103	1 bit	CH3 DI Counter Operate Status 0: Stop 1: Start(R/W)
00261	0x0104	1 bit	CH4 DI Counter Operate Status 0: Stop 1: Start(R/W)
00262	0x0105	1 bit	CH5 DI Counter Operate Status 0: Stop 1: Start(R/W)
00263	0x0106	1 bit	CH6 DI Counter Operate Status 0: Stop 1: Start(R/W)
00264	0x0107	1 bit	CH7 DI Counter Operate Status 0: Stop 1: Start(R/W)
00265	0x0108	1 bit	CH8 DI Counter Operate Status 0: Stop 1: Start(R/W)
00266	0x0109	1 bit	CH9 DI Counter Operate Status 0: Stop 1: Start(R/W)
00267	0x010A	1 bit	CH10 DI Counter Operate Status 0: Stop 1: Start(R/W)
00268	0x010B	1 bit	CH11 DI Counter Operate Status 0: Stop 1: Start(R/W)
00269	0x010C	1 bit	CH12 DI Counter Operate Status 0: Stop 1: Start(R/W)
00270	0x010D	1 bit	CH13 DI Counter Operate Status 0: Stop 1: Start(R/W)
00271	0x010E	1 bit	CH14 DI Counter Operate Status 0: Stop 1: Start(R/W)
00272	0x010F	1 bit	CH15 DI Counter Operate Status 0: Stop 1: Start(R/W)
00273	0x0110	1 bit	CH0 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00274	0x0111	1 bit	CH1 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00275	0x0112	1 bit	CH2 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00276	0x0113	1 bit	CH3 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00277	0x0114	1 bit	CH4 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00278	0x0115	1 bit	CH5 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00279	0x0116	1 bit	CH6 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value

			0 : Return illegal data value(0x03)
00280	0x0117	1 bit	CH7 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00281	0x0118	1 bit	CH8 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00282	0x0119	1 bit	CH9 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00283	0x011A	1 bit	CH10 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00284	0x011B	1 bit	CH11 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00285	0x011C	1 bit	CH12 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00286	0x011D	1 bit	CH13 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00287	0x011E	1 bit	CH14 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00288	0x011F	1 bit	CH15 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)

1xxxx Read Only Coils (Function 2)

Reference	Address	Data Type	Description
10001	0x0000	1 bit	CH0 DI Value，0=OFF，1=ON (Read only)
10002	0x0001	1 bit	CH1 DI Value，0=OFF，1=ON (Read only)
10003	0x0002	1 bit	CH2 DI Value，0=OFF，1=ON (Read only)
10004	0x0003	1 bit	CH3 DI Value，0=OFF，1=ON (Read only)
10005	0x0004	1 bit	CH4 DI Value，0=OFF，1=ON (Read only)
10006	0x0005	1 bit	CH5 DI Value，0=OFF，1=ON (Read only)
10007	0x0006	1 bit	CH6 DI Value，0=OFF，1=ON (Read only)
10008	0x0007	1 bit	CH7 DI Value，0=OFF，1=ON (Read only)
10009	0x0008	1 bit	CH8 DI Value，0=OFF，1=ON (Read only)
10010	0x0009	1 bit	CH9 DI Value，0=OFF，1=ON (Read only)
10011	0x000A	1 bit	CH10 DI Value，0=OFF，1=ON (Read only)
10012	0x000B	1 bit	CH11 DI Value，0=OFF，1=ON (Read only)

10013	0x000C	1 bit	CH12 DI Value，0=OFF，1=ON (Read only)
10014	0x000D	1 bit	CH13 DI Value，0=OFF，1=ON (Read only)
10015	0x000E	1 bit	CH14 DI Value，0=OFF，1=ON (Read only)
10016	0x000F	1 bit	CH15 DI Value，0=OFF，1=ON (Read only)

3xxxx Read Only Registers (Function 4)

Reference	Address	Data Type	Description
30017	0x0010	1 word	CH0 DI Counter Value Hi- Word (Read only)
30018	0x0011	1 word	CH0 DI Counter Value Lo- Word (Read only)
30019	0x0012	1 word	CH1 DI Counter Value Hi- Word (Read only)
30020	0x0013	1 word	CH1 DI Counter Value Lo- Word (Read only)
30021	0x0014	1 word	CH2 DI Counter Value Hi- Word (Read only)
30022	0x0015	1 word	CH2 DI Counter Value Lo- Word (Read only)
30023	0x0016	1 word	CH3 DI Counter Value Hi- Word (Read only)
30024	0x0017	1 word	CH3 DI Counter Value Lo- Word (Read only)
30025	0x0018	1 word	CH4 DI Counter Value Hi- Word (Read only)
30026	0x0019	1 word	CH4 DI Counter Value Lo- Word (Read only)
30027	0x001A	1 word	CH5 DI Counter Value Hi- Word (Read only)
30028	0x001B	1 word	CH5 DI Counter Value Lo- Word (Read only)
30029	0x001C	1 word	CH6 DI Counter Value Hi- Word (Read only)
30030	0x001D	1 word	CH6 DI Counter Value Lo- Word (Read only)
30031	0x001E	1 word	CH7 DI Counter Value Hi- Word (Read only)
30032	0x001F	1 word	CH7 DI Counter Value Lo- Word (Read only)
30033	0x0020	1 word	CH8 DI Counter Value Hi- Word (Read only)
30034	0x0021	1 word	CH8 DI Counter Value Lo- Word (Read only)
30035	0x0022	1 word	CH9 DI Counter Value Hi- Word (Read only)
30036	0x0023	1 word	CH9 DI Counter Value Lo- Word (Read only)
30037	0x0024	1 word	CH10 DI Counter Value Hi- Word (Read only)
30038	0x0025	1 word	CH10 DI Counter Value Lo- Word (Read only)
30039	0x0026	1 word	CH11 DI Counter Value Hi- Word (Read only)
30040	0x0027	1 word	CH11 DI Counter Value Lo- Word (Read only)
30041	0x0028	1 word	CH12 DI Counter Value Hi- Word (Read only)
30042	0x0029	1 word	CH12 DI Counter Value Lo- Word (Read only)
30043	0x002A	1 word	CH13 DI Counter Value Hi- Word (Read only)
30044	0x002B	1 word	CH13 DI Counter Value Lo- Word (Read only)
30045	0x002C	1 word	CH14 DI Counter Value Hi- Word (Read only)
30046	0x002D	1 word	CH14 DI Counter Value Lo- Word (Read only)
30047	0x002E	1 word	CH15 DI Counter Value Hi- Word (Read only)
30048	0x002F	1 word	CH15 DI Counter Value Lo- Word (Read only)
30049	0x0030	1 word	DI Value (Ch0~15) Bit0 = Ch0 DI Value (0=OFF, 1=ON) …… Bit15 = Ch15 DI Value (0=OFF, 1=ON)

E1211 Modbus Mapping

0xxxx Read/Write Coils (Functions 1, 5, 15)

Reference	Address	Data Type	Description
00001	0x0000	1 bit	CH0 DO Value 0: Off 1: On
00002	0x0001	1 bit	CH1 DO Value 0: Off 1: On
00003	0x0002	1 bit	CH2 DO Value 0: Off 1: On
00004	0x0003	1 bit	CH3 DO Value 0: Off 1: On
00005	0x0004	1 bit	CH4 DO Value 0: Off 1: On
00006	0x0005	1 bit	CH5 DO Value 0: Off 1: On
00007	0x0006	1 bit	CH6 DO Value 0: Off 1: On
00008	0x0007	1 bit	CH7 DO Value 0: Off 1: On
00009	0x0008	1 bit	CH8 DO Value 0: Off 1: On
00010	0x0009	1 bit	CH9 DO Value 0: Off 1: On
00011	0x000A	1 bit	CH10 DO Value 0: Off 1: On
00012	0x000B	1 bit	CH11 DO Value 0: Off 1: On
00013	0x000C	1 bit	CH12 DO Value 0: Off 1: On
00014	0x000D	1 bit	CH13 DO Value 0: Off 1: On
00015	0x000E	1 bit	CH14 DO Value 0: Off 1: On
00016	0x000F	1 bit	CH15 DO Value 0: Off 1: On
00017	0x0010	1 bit	CH0 DO Pulse Operate Status 0: Off 1: On
00018	0x0011	1 bit	CH1 DO Pulse Operate Status 0: Off 1: On
00019	0x0012	1 bit	CH2 DO Pulse Operate Status 0: Off 1: On
00020	0x0013	1 bit	CH3 DO Pulse Operate Status 0: Off 1: On
00021	0x0014	1 bit	CH4 DO Pulse Operate Status 0: Off 1: On
00022	0x0015	1 bit	CH5 DO Pulse Operate Status 0: Off 1: On
00023	0x0016	1 bit	CH6 DO Pulse Operate Status 0: Off 1: On
00024	0x0017	1 bit	CH7 DO Pulse Operate Status 0: Off 1: On
00025	0x0018	1 bit	CH8 DO Pulse Operate Status 0: Off 1: On
00026	0x0019	1 bit	CH9 DO Pulse Operate Status 0: Off 1: On
00027	0x001A	1 bit	CH10 DO Pulse Operate Status 0: Off 1: On
00028	0x001B	1 bit	CH11 DO Pulse Operate Status 0: Off 1: On
00029	0x001C	1 bit	CH12 DO Pulse Operate Status 0: Off 1: On
00030	0x001D	1 bit	CH13 DO Pulse Operate Status 0: Off 1: On
00031	0x001E	1 bit	CH14 DO Pulse Operate Status 0: Off 1: On
00032	0x001F	1 bit	CH15 DO Pulse Operate Status 0: Off 1: On
04097	0x1000	1Bit	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04098	0x1001	1Bit	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04099	0x1002	1Bit	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04100	0x1003	1Bit	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04101	0x1004	1Bit	CH4 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04102	0x1005	1Bit	CH5 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04103	0x1006	1Bit	CH6 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04104	0x1007	1Bit	CH7 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04105	0x1008	1Bit	CH8 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04106	0x1009	1Bit	CH9 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04107	0x100A	1Bit	CH10 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04108	0x100B	1Bit	CH11 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04109	0x100C	1Bit	CH12 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04110	0x100D	1Bit	CH13 DO P2P Connect Status 0=OFFLINE, 1=ONLINE

04111	0x100E	1Bit	CH14 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04112	0x100F	1Bit	CH15 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04113	0x1010	1Bit	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04114	0x1011	1Bit	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04115	0x1012	1Bit	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04116	0x1013	1Bit	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04117	0x1014	1Bit	CH4 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04118	0x1015	1Bit	CH5 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04119	0x1016	1Bit	CH6 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04120	0x1017	1Bit	CH7 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04121	0x1018	1Bit	CH8 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04122	0x1019	1Bit	CH9 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04123	0x101A	1Bit	CH10 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04124	0x101B	1Bit	CH11 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04125	0x101C	1Bit	CH12 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04126	0x101D	1Bit	CH13 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04127	0x101E	1Bit	CH14 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04128	0x101F	1Bit	CH15 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04129	0x1020	1Bit	CH0 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04130	0x1021	1Bit	CH1 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04131	0x1022	1Bit	CH2 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04132	0x1023	1Bit	CH3 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04133	0x1024	1Bit	CH4 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04134	0x1025	1Bit	CH5 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04135	0x1026	1Bit	CH6 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04136	0x1027	1Bit	CH7 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04137	0x1028	1Bit	CH8 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04138	0x1029	1Bit	CH9 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04139	0x102A	1Bit	CH10 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04140	0x102B	1Bit	CH11 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04141	0x102C	1Bit	CH12 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04142	0x102D	1Bit	CH13 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04143	0x102E	1Bit	CH14 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04144	0x102F	1Bit	CH15 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero

E1212 Modbus Mapping

0xxxx Read/Write Coils (Functions 1, 5, 15)

Reference	Address	Data Type	Description
DO Channel			
00001	0x0000	1 bit	CH0 DO Value 0: Off 1: On
00002	0x0001	1 bit	CH1 DO Value 0: Off 1: On
00003	0x0002	1 bit	CH2 DO Value 0: Off 1: On
00004	0x0003	1 bit	CH3 DO Value 0: Off 1: On
00005	0x0004	1 bit	CH4 DO Value 0: Off 1: On
00006	0x0005	1 bit	CH5 DO Value 0: Off 1: On
00007	0x0006	1 bit	CH6 DO Value 0: Off 1: On
00008	0x0007	1 bit	CH7 DO Value 0: Off 1: On
00017	0x0010	1 bit	CH0 DO Pulse Operate Status 0: Off 1: On
00018	0x0011	1 bit	CH1 DO Pulse Operate Status 0: Off 1: On
00019	0x0012	1 bit	CH2 DO Pulse Operate Status 0: Off 1: On
00020	0x0013	1 bit	CH3 DO Pulse Operate Status 0: Off 1: On
00021	0x0014	1 bit	CH4 DO Pulse Operate Status 0: Off 1: On
00022	0x0015	1 bit	CH5 DO Pulse Operate Status 0: Off 1: On
00023	0x0016	1 bit	CH6 DO Pulse Operate Status 0: Off 1: On
00024	0x0017	1 bit	CH7 DO Pulse Operate Status 0: Off 1: On
DI Channel			
00257	0x0100	1 bit	CH0 DI Counter Operate Status 0: Stop 1: Start(R/W)
00258	0x0101	1 bit	CH1 DI Counter Operate Status 0: Stop 1: Start(R/W)
00259	0x0102	1 bit	CH2 DI Counter Operate Status 0: Stop 1: Start(R/W)
00260	0x0103	1 bit	CH3 DI Counter Operate Status 0: Stop 1: Start(R/W)
00261	0x0104	1 bit	CH4 DI Counter Operate Status 0: Stop 1: Start(R/W)
00262	0x0105	1 bit	CH5 DI Counter Operate Status 0: Stop 1: Start(R/W)
00263	0x0106	1 bit	CH6 DI Counter Operate Status 0: Stop 1: Start(R/W)
00264	0x0107	1 bit	CH7 DI Counter Operate Status 0: Stop 1: Start(R/W)
00265	0x0108	1 bit	CH8 DI Counter Operate Status 0: Stop 1: Start(R/W)
00266	0x0109	1 bit	CH9 DI Counter Operate Status 0: Stop 1: Start(R/W)
00267	0x010A	1 bit	CH10 DI Counter Operate Status 0: Stop 1: Start(R/W)
00268	0x010B	1 bit	CH11 DI Counter Operate Status 0: Stop 1: Start(R/W)
00269	0x010C	1 bit	CH12 DI Counter Operate Status 0: Stop 1: Start(R/W)
00270	0x010D	1 bit	CH13 DI Counter Operate Status 0: Stop 1: Start(R/W)
00271	0x010E	1 bit	CH14 DI Counter Operate Status 0: Stop 1: Start(R/W)
00272	0x010F	1 bit	CH15 DI Counter Operate Status 0: Stop 1: Start(R/W)
00273	0x0110	1 bit	CH0 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00274	0x0111	1 bit	CH1 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00275	0x0112	1 bit	CH2 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)

00276	0x0113	1 bit	CH3 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00277	0x0114	1 bit	CH4 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00278	0x0115	1 bit	CH5 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00279	0x0116	1 bit	CH6 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00280	0x0117	1 bit	CH7 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00281	0x0118	1 bit	CH8 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00282	0x0119	1 bit	CH9 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00283	0x011A	1 bit	CH10 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00284	0x011B	1 bit	CH11 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00285	0x011C	1 bit	CH12 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00286	0x011D	1 bit	CH13 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00287	0x011E	1 bit	CH14 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00288	0x011F	1 bit	CH15 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)

1xxxx Read Only Coils (Function 2)

Reference	Address	Data Type	Description
14097	0x1000	1Bit	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14098	0x1001	1Bit	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14099	0x1002	1Bit	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14100	0x1003	1Bit	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14101	0x1004	1Bit	CH4 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14102	0x1005	1Bit	CH5 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14103	0x1006	1Bit	CH6 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14104	0x1007	1Bit	CH7 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14105	0x1008	1Bit	CH8 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14106	0x1009	1Bit	CH9 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14107	0x100A	1Bit	CH10 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14108	0x100B	1Bit	CH11 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14109	0x100C	1Bit	CH12 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14110	0x100D	1Bit	CH13 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14111	0x100E	1Bit	CH14 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14112	0x100F	1Bit	CH15 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14113	0x1010	1Bit	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14114	0x1011	1Bit	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14115	0x1012	1Bit	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14116	0x1013	1Bit	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14117	0x1014	1Bit	CH4 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14118	0x1015	1Bit	CH5 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14119	0x1016	1Bit	CH6 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14120	0x1017	1Bit	CH7 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14121	0x1018	1Bit	CH8 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14122	0x1019	1Bit	CH9 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14123	0x101A	1Bit	CH10 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14124	0x101B	1Bit	CH11 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14125	0x101C	1Bit	CH12 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14126	0x101D	1Bit	CH13 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14127	0x101E	1Bit	CH14 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14128	0x101F	1Bit	CH15 DO P2P Output Safe Status 0=Normal, 1=Safe Mode

3xxxx Read Only Registers (Function 4)

Reference	Address	Data Type	Description
34097	0x1000	1word	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34098	0x1001	1word	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34099	0x1002	1word	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34100	0x1003	1word	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34101	0x1004	1word	CH4 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34102	0x1005	1word	CH5 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34103	0x1006	1word	CH6 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34104	0x1007	1word	CH7 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34105	0x1008	1word	CH8 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34106	0x1009	1word	CH9 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34107	0x100A	1word	CH10 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34108	0x100B	1word	CH11 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34109	0x100C	1word	CH12 DO P2P Connect Status 0=OFFLINE, 1=ONLINE

34110	0x100D	1word	CH13 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34111	0x100E	1word	CH14 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34112	0x100F	1word	CH15 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34113	0x1010	1word	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34114	0x1011	1word	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34115	0x1012	1word	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34116	0x1013	1word	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34117	0x1014	1word	CH4 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34118	0x1015	1word	CH5 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34119	0x1016	1word	CH6 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34120	0x1017	1word	CH7 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34121	0x1018	1word	CH8 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34122	0x1019	1word	CH9 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34123	0x101A	1word	CH10 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34124	0x101B	1word	CH11 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34125	0x101C	1word	CH12 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34126	0x101D	1word	CH13 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34127	0x101E	1word	CH14 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34128	0x101F	1word	CH15 DO P2P Output Safe Status 0=Normal, 1=Safe Mode

4xxxx Read/Write Registers (Functions 3, 6, 16)

Reference	Address	Data Type	Description
44097	0x1000	1word	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44098	0x1001	1word	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44099	0x1002	1word	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44100	0x1003	1word	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44101	0x1004	1word	CH4 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44102	0x1005	1word	CH5 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44103	0x1006	1word	CH6 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44104	0x1007	1word	CH7 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44105	0x1008	1word	CH8 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44106	0x1009	1word	CH9 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44107	0x100A	1word	CH10 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44108	0x100B	1word	CH11 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44109	0x100C	1word	CH12 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44110	0x100D	1word	CH13 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44111	0x100E	1word	CH14 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44112	0x100F	1word	CH15 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44113	0x1010	1word	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44114	0x1011	1word	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44115	0x1012	1word	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44116	0x1013	1word	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44117	0x1014	1word	CH4 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44118	0x1015	1word	CH5 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44119	0x1016	1word	CH6 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44120	0x1017	1word	CH7 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44121	0x1018	1word	CH8 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44122	0x1019	1word	CH9 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44123	0x101A	1word	CH10 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44124	0x101B	1word	CH11 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44125	0x101C	1word	CH12 DO P2P Output Safe Status 0=Normal, 1=Safe Mode

44126	0x101D	1word	CH13 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44127	0x101E	1word	CH14 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44128	0x101F	1word	CH15 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44129	0x1020	1word	CH0 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44130	0x1021	1word	CH1 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44131	0x1022	1word	CH2 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44132	0x1023	1word	CH3 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44133	0x1024	1word	CH4 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44134	0x1025	1word	CH5 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44135	0x1026	1word	CH6 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44136	0x1027	1word	CH7 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44137	0x1028	1word	CH8 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44138	0x1029	1word	CH9 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44139	0x102A	1word	CH10 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44140	0x102B	1word	CH11 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44141	0x102C	1word	CH12 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44142	0x102D	1word	CH13 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44143	0x102E	1word	CH14 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44144	0x102F	1word	CH15 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero

E1214 Modbus Mapping

0xxxx Read/Write Coils (Functions 1, 5, 15)

Reference	Address	Data Type	Description
DO Channel			
00001	0x0000	1 bit	CH0 DO Value 0: Off 1: On
00002	0x0001	1 bit	CH1 DO Value 0: Off 1: On
00003	0x0002	1 bit	CH2 DO Value 0: Off 1: On
00004	0x0003	1 bit	CH3 DO Value 0: Off 1: On
00005	0x0004	1 bit	CH4 DO Value 0: Off 1: On
00006	0x0005	1 bit	CH5 DO Value 0: Off 1: On
00017	0x0010	1 bit	CH0 DO Pulse Operate Status 0: Off 1: On
00018	0x0011	1 bit	CH1 DO Pulse Operate Status 0: Off 1: On
00019	0x0012	1 bit	CH2 DO Pulse Operate Status 0: Off 1: On
00020	0x0013	1 bit	CH3 DO Pulse Operate Status 0: Off 1: On
00021	0x0014	1 bit	CH4 DO Pulse Operate Status 0: Off 1: On
00022	0x0015	1 bit	CH5 DO Pulse Operate Status 0: Off 1: On
04097	0x1000	1Bit	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04098	0x1001	1Bit	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04099	0x1002	1Bit	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04100	0x1003	1Bit	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04101	0x1004	1Bit	CH4 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04102	0x1005	1Bit	CH5 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04113	0x1010	1Bit	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04114	0x1011	1Bit	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04115	0x1012	1Bit	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04116	0x1013	1Bit	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04117	0x1014	1Bit	CH4 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04118	0x1015	1Bit	CH5 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04129	0x1020	1Bit	CH0 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04130	0x1021	1Bit	CH1 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04131	0x1022	1Bit	CH2 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04132	0x1023	1Bit	CH3 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04133	0x1024	1Bit	CH4 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04134	0x1025	1Bit	CH5 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
DI Channel			
00257	0x0100	1 bit	CH0 DI Counter Operate Status 0: Stop 1: Start(R/W)
00258	0x0101	1 bit	CH1 DI Counter Operate Status 0: Stop 1: Start(R/W)
00259	0x0102	1 bit	CH2 DI Counter Operate Status 0: Stop 1: Start(R/W)

00260	0x0103	1 bit	CH3 DI Counter Operate Status 0: Stop 1: Start(R/W)
00261	0x0104	1 bit	CH4 DI Counter Operate Status 0: Stop 1: Start(R/W)
00262	0x0105	1 bit	CH5 DI Counter Operate Status 0: Stop 1: Start(R/W)
00273	0x0110	1 bit	CH0 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00274	0x0111	1 bit	CH1 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00275	0x0112	1 bit	CH2 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00276	0x0113	1 bit	CH3 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00277	0x0114	1 bit	CH4 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00278	0x0115	1 bit	CH5 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)

1xxxx Read Only Coils (Function 2)

Reference	Address	Data Type	Description
10001	0x0000	1 bit	CH0 DI Value，0=OFF，1=ON (Read only)
10002	0x0001	1 bit	CH1 DI Value，0=OFF，1=ON (Read only)
10003	0x0002	1 bit	CH2 DI Value，0=OFF，1=ON (Read only)
10004	0x0003	1 bit	CH3 DI Value，0=OFF，1=ON (Read only)
10005	0x0004	1 bit	CH4 DI Value，0=OFF，1=ON (Read only)
10006	0x0005	1 bit	CH5 DI Value，0=OFF，1=ON (Read only)
14097	0x1000	1Bit	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14098	0x1001	1Bit	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14099	0x1002	1Bit	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14100	0x1003	1Bit	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14101	0x1004	1Bit	CH4 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14102	0x1005	1Bit	CH5 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14113	0x1010	1Bit	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14114	0x1011	1Bit	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14115	0x1012	1Bit	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14116	0x1013	1Bit	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14117	0x1014	1Bit	CH4 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14118	0x1015	1Bit	CH5 DO P2P Output Safe Status 0=Normal, 1=Safe Mode

3xxxx Read Only Registers (Function 4)

Reference	Address	Data Type	Description
30001	0x0000	2 word	CH0 Read AO Scaling Value (float)
30002	0x0001	2 word	CH1 Read AO Scaling Value (float)
30003	0x0002	2 word	CH2 Read AO Scaling Value (float)
30004	0x0003	2 word	CH3 Read AO Scaling Value (float)
30017	0x0010	1 word	CH0 DI Counter Value Hi- Word (Read only)
30018	0x0011	1 word	CH0 DI Counter Value Lo- Word (Read only)
30019	0x0012	1 word	CH1 DI Counter Value Hi- Word (Read only)
30020	0x0013	1 word	CH1 DI Counter Value Lo- Word (Read only)
30021	0x0014	1 word	CH2 DI Counter Value Hi- Word (Read only)
30022	0x0015	1 word	CH2 DI Counter Value Lo- Word (Read only)
30023	0x0016	1 word	CH3 DI Counter Value Hi- Word (Read only)
30024	0x0017	1 word	CH3 DI Counter Value Lo- Word (Read only)
30025	0x0018	1 word	CH4 DI Counter Value Hi- Word (Read only)
30026	0x0019	1 word	CH4 DI Counter Value Lo- Word (Read only)
30027	0x001A	1 word	CH5 DI Counter Value Hi- Word (Read only)
30028	0x001B	1 word	CH5 DI Counter Value Lo- Word (Read only)
30049	0x0030	1 word	DI Value (Ch0~5) Bit0 = Ch0 DI Value (0=OFF, 1=ON) …… Bit5 = Ch5 DI Value (0=OFF, 1=ON)
34097	0x1000	1word	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34098	0x1001	1word	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34099	0x1002	1word	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34100	0x1003	1word	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34101	0x1004	1word	CH4 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34102	0x1005	1word	CH5 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34113	0x1010	1word	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34114	0x1011	1word	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34115	0x1012	1word	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34116	0x1013	1word	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34117	0x1014	1word	CH4 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34118	0x1015	1word	CH5 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44097	0x1000	1word	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44098	0x1001	1word	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44099	0x1002	1word	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44100	0x1003	1word	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44101	0x1004	1word	CH4 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44102	0x1005	1word	CH5 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44113	0x1010	1word	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44114	0x1011	1word	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44115	0x1012	1word	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44116	0x1013	1word	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44117	0x1014	1word	CH4 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44118	0x1015	1word	CH5 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44129	0x1020	1word	CH0 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44130	0x1021	1word	CH1 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero

44131	0x1022	1word	CH2 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44132	0x1023	1word	CH3 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44133	0x1024	1word	CH4 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44134	0x1025	1word	CH5 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero

4xxxx Read/Write Registers (Functions 3, 6, 16)

Reference	Address	Data Type	Description
41025	0x0400	1 word	CH0 AO RAW Value
41026	0x0401	1 word	CH1 AO RAW Value
41027	0x0402	1 word	CH2 AO RAW Value
41028	0x0403	1 word	CH3 AO RAW Value
40033	0x0020	1 word	DO all Value (Ch0~5) Bit0 = Ch0 DO Value (0=OFF, 1=ON) …… Bit5 = Ch5 DO Value (0=OFF, 1=ON)

E1240 Modbus Mapping

3xxxx Read Only Registers (Function 4)

Reference	Address	Data Type	Description
30001	0x0000	1 word	CH0 Read AI Value
30002	0x0001	1 word	CH1 Read AI Value
30003	0x0002	1 word	CH2 Read AI Value
30004	0x0003	1 word	CH3 Read AI Value
30005	0x0004	1 word	CH4 Read AI Value
30006	0x0005	1 word	CH5 Read AI Value
30007	0x0006	1 word	CH6 Read AI Value
30008	0x0007	1 word	CH7 Read AI Value
30009	0x0008	1 word	CH0 Read AI Scaling Value Hi (float)
30010	0x0009	1 word	CH0 Read AI Scaling Value Low (float)
30011	0x000A	1 word	CH1 Read AI Scaling Value Hi (float)
30012	0x000B	1 word	CH1 Read AI Scaling Value Low (float)
30013	0x000C	1 word	CH2 Read AI Scaling Value Hi (float)
30014	0x000D	1 word	CH2 Read AI Scaling Value Low (float)
30015	0x000E	1 word	CH3 Read AI Scaling Value Hi (float)
30016	0x000F	1 word	CH3 Read AI Scaling Value Low (float)
30017	0x0010	1 word	CH4 Read AI Scaling Value Hi (float)
30018	0x0011	1 word	CH4 Read AI Scaling Value Low (float)
30019	0x0012	1 word	CH5 Read AI Scaling Value Hi (float)
30020	0x0013	1 word	CH5 Read AI Scaling Value Low (float)
30021	0x0014	1 word	CH6 Read AI Scaling Value Hi (float)
30022	0x0015	1 word	CH6 Read AI Scaling Value Low (float)
30023	0x0016	1 word	CH7 Read AI Scaling Value Hi (float)
30024	0x0017	1 word	CH7 Read AI Scaling Value Low (float)
30061	0x003C	1 word	Read AI 0 Current Mode Status 0: Normal 1: Burn Out 2: Over Range 3. Under Range
30062	0x003D	1 word	Read AI 1 Current Mode Status 0: Normal 1: Burn Out 2: Over Range 3. Under Range
30063	0x003E	1 word	Read AI 2 Current Mode Status 0: Normal 1: Burn Out 2: Over Range 3. Under Range
30064	0x003F	1 word	Read AI 3 Current Mode Status 0: Normal 1: Burn Out 2: Over Range 3. Under Range
30065	0x0040	1 word	Read AI 4 Current Mode Status 0: Normal 1: Burn Out

			2: Over Range 3. Under Range
30066	0x0041	1 word	Read AI 5 Current Mode Status 0: Normal 1: Burn Out 2: Over Range 3. Under Range
30067	0x0042	1 word	Read AI 6 Current Mode Status 0: Normal 1: Burn Out 2: Over Range 3. Under Range
30068	0x0043	1 word	Read AI 7 Current Mode Status 0: Normal 1: Burn Out 2: Over Range 3. Under Range
Reference	Address	Data Type	Description
40025	0x0018	1 word	CH AI 0 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40026	0x0019	1 word	CH AI 1 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40027	0x001A	1 word	CH AI 2 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40028	0x001B	1 word	CH AI 3 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40029	0x001C	1 word	CH AI 4 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40030	0x001D	1 word	CH AI 5 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40031	0x001E	1 word	CH AI 6 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40032	0x001F	1 word	CH AI 7 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40041	0x0028	2 word	CH AI 0 BO Value (floating point)
40043	0x002A	2 word	CH AI 1 BO Value (floating point)
40045	0x002C	2 word	CH AI 2 BO Value (floating point)
40047	0x002E	2 word	CH AI 3 BO Value (floating point)
40049	0x0030	2 word	CH AI 4 BO Value (floating point)
40051	0x0032	2 word	CH AI 5 BO Value (floating point)
40053	0x0034	2 word	CH AI 6 BO Value (floating point)
40055	0x0036	2 word	CH AI 7 BO Value (floating point)

E1241 Modbus Mapping

0xxxx Read/Write Coils (Functions 1, 5, 15)

Reference	Address	Data Type	Description
04097	0x1000	1Bit	CH0 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
04098	0x1001	1Bit	CH1 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
04099	0x1002	1Bit	CH2 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
04100	0x1003	1Bit	CH3 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
04113	0x1010	1Bit	CH0 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
04114	0x1011	1Bit	CH1 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
04115	0x1012	1Bit	CH2 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
04116	0x1013	1Bit	CH3 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
04129	0x1020	1Bit	CH0 AO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04130	0x1021	1Bit	CH1 AO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04131	0x1022	1Bit	CH2 AO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04132	0x1023	1Bit	CH3 AO Clear P2P Output Safe Status Write: 1= clear status Read: always zero

1xxxx Read Only Coils (Function 2)

Reference	Address	Data Type	Description
14097	0x1000	1Bit	CH0 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
14098	0x1001	1Bit	CH1 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
14099	0x1002	1Bit	CH2 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
14100	0x1003	1Bit	CH3 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
14113	0x1010	1Bit	CH0 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
14114	0x1011	1Bit	CH1 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
14115	0x1012	1Bit	CH2 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
14116	0x1013	1Bit	CH3 AO P2P Output Safe Status 0=Normal, 1=Safe Mode

3xxxx Read Only Registers (Function 4)

Reference	Address	Data Type	Description
30001	0x0000	2 word	CH0 Read AO Scaling Value (float)
30002	0x0001	2 word	CH1 Read AO Scaling Value (float)
30003	0x0002	2 word	CH2 Read AO Scaling Value (float)
30004	0x0003	2 word	CH3 Read AO Scaling Value (float)
34097	0x1000	1word	CH0 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
34098	0x1001	1word	CH1 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
34099	0x1002	1word	CH2 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
34100	0x1003	1word	CH3 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
34113	0x1010	1word	CH0 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
34114	0x1011	1word	CH1 AO P2P Output Safe Status 0=Normal, 1=Safe Mode

34115	0x1012	1word	CH2 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
34116	0x1013	1word	CH3 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
Reference	Address	Data Type	Description
40025	0x0018	1 word	CH AI 0 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40026	0x0019	1 word	CH AI 1 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40027	0x001A	1 word	CH AI 2 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40028	0x001B	1 word	CH AI 3 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40029	0x001C	1 word	CH AI 4 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40030	0x001D	1 word	CH AI 5 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40031	0x001E	1 word	CH AI 6 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40032	0x001F	1 word	CH AI 7 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40041	0x0028	2 word	CH AI 0 BO Value (floating point)
40043	0x002A	2 word	CH AI 1 BO Value (floating point)
40045	0x002C	2 word	CH AI 2 BO Value (floating point)
40047	0x002E	2 word	CH AI 3 BO Value (floating point)
40049	0x0030	2 word	CH AI 4 BO Value (floating point)
40051	0x0032	2 word	CH AI 5 BO Value (floating point)
40053	0x0034	2 word	CH AI 6 BO Value (floating point)
40055	0x0036	2 word	CH AI 7 BO Value (floating point)

4xxxx Read/Write Registers (Functions 3, 6, 16)

Reference	**Address**	**Data Type**	**Description**
41025	0x0400	1 word	CH0 AO RAW Value
41026	0x0401	1 word	CH1 AO RAW Value
41027	0x0402	1 word	CH2 AO RAW Value
41028	0x0403	1 word	CH3 AO RAW Value
44097	0x1000	1word	CH0 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
44098	0x1001	1word	CH1 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
44099	0x1002	1word	CH2 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
44100	0x1003	1word	CH3 AO P2P Connect Status 0=OFFLINE, 1=ONLINE
44113	0x1010	1word	CH0 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
44114	0x1011	1word	CH1 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
44115	0x1012	1word	CH2 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
44116	0x1013	1word	CH3 AO P2P Output Safe Status 0=Normal, 1=Safe Mode
44129	0x1020	1word	CH0 AO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44130	0x1021	1word	CH1 AO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44131	0x1022	1word	CH2 AO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44132	0x1023	1word	CH3 AO Clear P2P Output Safe Status Write: 1= clear status Read: always zero

E1242 Modbus Mapping

0xxxx Read/Write Coils (Functions 1, 5, 15)

Reference	Address	Data Type	Description
DO Channel			
00001	0x0000	1 bit	CH0 DO Value 0: Off 1: On
00002	0x0001	1 bit	CH1 DO Value 0: Off 1: On
00003	0x0002	1 bit	CH2 DO Value 0: Off 1: On
00004	0x0003	1 bit	CH3 DO Value 0: Off 1: On
00017	0x0010	1 bit	CH0 DO Pulse Operate Status 0: Off 1: On
00018	0x0011	1 bit	CH1 DO Pulse Operate Status 0: Off 1: On
00019	0x0012	1 bit	CH2 DO Pulse Operate Status 0: Off 1: On
00020	0x0013	1 bit	CH3 DO Pulse Operate Status 0: Off 1: On
DI Channel			
00257	0x0100	1 bit	CH0 DI Counter Operate Status 0: Stop 1: Start(R/W)
00258	0x0101	1 bit	CH1 DI Counter Operate Status 0: Stop 1: Start(R/W)
00259	0x0102	1 bit	CH2 DI Counter Operate Status 0: Stop 1: Start(R/W)
00260	0x0103	1 bit	CH3 DI Counter Operate Status 0: Stop 1: Start(R/W)
00261	0x0104	1 bit	CH4 DI Counter Operate Status 0: Stop 1: Start(R/W)
00262	0x0105	1 bit	CH5 DI Counter Operate Status 0: Stop 1: Start(R/W)
00263	0x0106	1 bit	CH6 DI Counter Operate Status 0: Stop 1: Start(R/W)
00264	0x0107	1 bit	CH7 DI Counter Operate Status 0: Stop 1: Start(R/W)
00273	0x0110	1 bit	CH0 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00274	0x0111	1 bit	CH1 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00275	0x0112	1 bit	CH2 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00276	0x0113	1 bit	CH3 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00277	0x0114	1 bit	CH4 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00278	0x0115	1 bit	CH5 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00279	0x0116	1 bit	CH6 DI Clear Count Value Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
00280	0x0117	1 bit	CH7 DI Clear Count Value

			Read Always return:0 Write: 1 : Clear counter value 0 : Return illegal data value(0x03)
04097	0x1000	1Bit	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04098	0x1001	1Bit	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04099	0x1002	1Bit	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04100	0x1003	1Bit	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
04113	0x1010	1Bit	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04114	0x1011	1Bit	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04115	0x1012	1Bit	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04116	0x1013	1Bit	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
04129	0x1020	1Bit	CH0 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04130	0x1021	1Bit	CH1 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04131	0x1022	1Bit	CH2 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
04132	0x1023	1Bit	CH3 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero

1xxxx Read Only Coils (Function 2)

Reference	Address	Data Type	Description
DI Channel			
10001	0x0000	1 bit	CH0 DI Value，0=OFF，1=ON (Read only)
10002	0x0001	1 bit	CH1 DI Value，0=OFF，1=ON (Read only)
10003	0x0002	1 bit	CH2 DI Value，0=OFF，1=ON (Read only)
10004	0x0003	1 bit	CH3 DI Value，0=OFF，1=ON (Read only)
10005	0x0004	1 bit	CH4 DI Value，0=OFF，1=ON (Read only)
10006	0x0005	1 bit	CH5 DI Value，0=OFF，1=ON (Read only)
10007	0x0006	1 bit	CH6 DI Value，0=OFF，1=ON (Read only)
10008	0x0007	1 bit	CH7 DI Value，0=OFF，1=ON (Read only)
DO Channel			
14097	0x1000	1Bit	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14098	0x1001	1Bit	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14099	0x1002	1Bit	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14100	0x1003	1Bit	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
14113	0x1010	1Bit	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14114	0x1011	1Bit	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14115	0x1012	1Bit	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
14116	0x1013	1Bit	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode

3xxxx Read Only Registers (Function 4)

Reference	Address	Data Type	Description
DI Channel			
30017	0x0010	1 word	CH0 DI Counter Value Hi- Word (Read only)
30018	0x0011	1 word	CH0 DI Counter Value Lo- Word (Read only)

30019	0x0012	1 word	CH1 DI Counter Value Hi- Word (Read only)
30020	0x0013	1 word	CH1 DI Counter Value Lo- Word (Read only)
30021	0x0014	1 word	CH2 DI Counter Value Hi- Word (Read only)
30022	0x0015	1 word	CH2 DI Counter Value Lo- Word (Read only)
30023	0x0016	1 word	CH3 DI Counter Value Hi- Word (Read only)
30024	0x0017	1 word	CH3 DI Counter Value Lo- Word (Read only)
30025	0x0018	1 word	CH4 DI Counter Value Hi- Word (Read only)
30026	0x0019	1 word	CH4 DI Counter Value Lo- Word (Read only)
30027	0x001A	1 word	CH5 DI Counter Value Hi- Word (Read only)
30028	0x001B	1 word	CH5 DI Counter Value Lo- Word (Read only)
30029	0x001C	1 word	CH6 DI Counter Value Hi- Word (Read only)
30030	0x001D	1 word	CH6 DI Counter Value Lo- Word (Read only)
30031	0x001E	1 word	CH7 DI Counter Value Hi- Word (Read only)
30032	0x001F	1 word	CH7 DI Counter Value Lo- Word (Read only)
30049	0x0030	1 word	DI Value (Ch0~7) Bit0 = Ch0 DI Value (0=OFF, 1=ON) Bit7 = Ch7 DI Value (0=OFF, 1=ON) …… Bit8 to 15 = reserved
30513	0x0200	1 word	CH0 Read AI RAW Value
30514	0x0201	1 word	CH1 Read AI RAW Value
30515	0x0202	1 word	CH2 Read AI RAW Value
30516	0x0203	1 word	CH3 Read AI RAW Value
30521	0x0208	2 word	CH0 Read AI Scaling Value (float)
30522	0x0209	2 word	CH1 Read AI Scaling Value (float)
30523	0x020A	2 word	CH2 Read AI Scaling Value (float)
30524	0x020B	2 word	CH3 Read AI Scaling Value (float)
DO Channel			
34097	0x1000	1word	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34098	0x1001	1word	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34099	0x1002	1word	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34100	0x1003	1word	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
34113	0x1010	1word	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34114	0x1011	1word	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34115	0x1012	1word	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
34116	0x1013	1word	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
30578	0x0241	1 word	Read AI 1 Current Mode Status 0: Normal 1: Burn Out 2: Over Range 3. Under Range

4xxxx Read/Write Registers (Functions 3, 6, 16)

Reference	Address	Data Type	Description
40033	0x0020	1 word	DO all Value (Ch0~3) Bit0 = Ch0 DO Value (0=OFF, 1=ON) Bit3 = Ch3 DO Value (0=OFF, 1=ON) …… Bit4 to 15 = reserved
40545	0x0220	1 word	CH0 AI 0 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40546	0x0221	1 word	CH0 AI 1 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40547	0x0222	1 word	CH0 AI 2 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40548	0x0223	1 word	CH0 AI 3 Mode: 1:4-20mA, 2:0-20mA, 4:BO
40561	0x0230	2 word	CH AI 0 BO Value (floating point)

40563	0x0232	2 word	CH AI 1 BO Value (floating point)
40565	0x0234	2 word	CH AI 2 BO Value (floating point)
40567	0x0236	2 word	CH AI 3 BO Value (floating point)
44097	0x1000	1word	CH0 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44098	0x1001	1word	CH1 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44099	0x1002	1word	CH2 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44100	0x1003	1word	CH3 DO P2P Connect Status 0=OFFLINE, 1=ONLINE
44113	0x1010	1word	CH0 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44114	0x1011	1word	CH1 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44115	0x1012	1word	CH2 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44116	0x1013	1word	CH3 DO P2P Output Safe Status 0=Normal, 1=Safe Mode
44129	0x1020	1word	CH0 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44130	0x1021	1word	CH1 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44131	0x1022	1word	CH2 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero
44132	0x1023	1word	CH3 DO Clear P2P Output Safe Status Write: 1= clear status Read: always zero

E1260 Modbus Mapping

3xxxx Read Only Registers (Function 4)

Reference	Address	Data Type	Description
31537	0x0600	1 word	CH0 Read RTD Value Range 0~65535, Unit:0.1 (Ohm, Celsius, Fahrenheit)
31538	0x0601	1 word	CH1 Read RTD Value Range 0~65535, Unit:0.1 (Ohm, Celsius, Fahrenheit)
31539	0x0602	1 word	CH2 Read RTD Value Range 0~65535, Unit:0.1 (Ohm, Celsius, Fahrenheit)
31540	0x0603	1 word	CH3 Read RTD Value Range 0~65535, Unit:0.1 (Ohm, Celsius, Fahrenheit)
31541	0x0604	1 word	CH4 Read RTD Value Range 0~65535, Unit:0.1 (Ohm, Celsius, Fahrenheit)
31542	0x0605	1 word	CH5 Read RTD Value Range 0~65535, Unit:0.1 (Ohm, Celsius, Fahrenheit)

E1262 Modbus Mapping

3xxxx Read Only Registers (Function 4)

Reference	Address	Data Type	Description
32049	0x0800	1 word	CH0 TC Minimum Value Hi Word Unit:0.1 (Celsius, Fahrenheit) 0.0001(mV)
32050	0x0801	1 word	CH0 TC Minimum Value Lo Word Hi+Lo Range: 0~4294967295 Unit:0.1 (Celsius, Fahrenheit) 0.0001(mV)
32051	0x0802	1 word	CH1 TC Minimum Value Hi Word
32052	0x0803	1 word	CH1 TC Minimum Value Lo Word
32053	0x0804	1 word	CH2 TC Minimum Value Hi Word
32054	0x0805	1 word	CH2 TC Minimum Value Lo Word
32055	0x0806	1 word	CH3 TC Minimum Value Hi Word
32056	0x0807	1 word	CH3 TC Minimum Value Lo Word
32057	0x0808	1 word	CH4 TC Minimum Value Hi Word
32058	0x0809	1 word	CH4 TC Minimum Value Lo Word
32059	0x080A	1 word	CH5 TC Minimum Value Hi Word
32060	0x080B	1 word	CH5 TC Minimum Value Lo Word
32061	0x080C	1 word	CH6 TC Minimum Value Hi Word
32062	0x080D	1 word	CH6 TC Minimum Value Lo Word
32063	0x080E	1 word	CH7 TC Minimum Value Hi Word
32064	0x080F	1 word	CH7 TC Minimum Value Lo Word
32065	0x0810	1 word	CH8 TC Minimum Value Hi Word
32066	0x0811	1 word	CH8 TC Minimum Value Lo Word

B

Network Port Numbers

ioLogik E1200 Network Port Usage

Port	Type	Usage
80	TCP	Web console service
502	TCP	Modbus/TCP communication
68	UDP	BOOTP/DHCP
4800	UDP	Auto search
69	UDP	Export/import configuration file
9900	TCP	Active OPC Server
9950	TCP	Active OPC Server
9020 (default)	TCP	Peer-to-peer

C

Factory Defaults

ioLogik E1200 series products are configured with the following factory defaults:

Default IP address	192.168.127.254
Default Netmask	255.255.255.0
Default Gateway	0.0.0.0
Communication watchdog	Disable
Modbus/TCP Alive Check	On
Modbus/TCP Timeout Interval	60 sec
DI Mode	DI
Filter time	100 ms
Trigger for counter	Lo to Hi
Counter status	Stop
DO Mode	DO
DO Safe Status	Disable
Power on status	Disable
Low width for pulse	1 ms (1.5 s for relay)
Hi width for pulse	1 ms (1.5 s for relay)
Output pulses	0 (continuous)
DIO Mode	DO
AI Mode	Voltage
Scaling and Slop-Intercept	Disable
Password	N/A
Server Name	N/A
Server Location	N/A
AO Mode	Voltage
Scaling	Disable

D

Pinouts

Pin assignment of Terminal Blocks

ioLogik E1210 (top to bottom)

1	COM 0
2	DI0
3	DI1
4	DI2
5	DI3
6	GND
7	DI4
8	DI5
9	DI6
10	DI7
11	COM 1
12	DI8
13	DI9
14	DI10
15	DI11
16	GND
17	DI12
18	DI13
19	DI14
20	DI15

ioLogik E1211 (top to bottom)

1	
2	DO0
3	DO1
4	DO2
5	DO3
6	GND
7	DO4
8	DO5
9	DO6
10	DO7
11	
12	DO8
13	DO9
14	DO10
15	DO11
16	GND
17	DO12
18	DO13
19	DO14
20	DO15

ioLogik E1212 (top to bottom)

1	COM0
2	DI0
3	DI1
4	DI2
5	DI3
6	GND
7	DI4
8	DI5
9	DI6
10	DI7
11	COM1
12	DIO0
13	DIO1
14	DIO2
15	DIO3
16	GND
17	DIO4
18	DIO5
19	DIO6
20	DIO7

ioLogik E1214 (top to bottom)

1	COM
2	DI0
3	DI1
4	DI2
5	DI3
6	DI4
7	DI5
8	GND
9	R0_NO
10	R0_C
11	R1_NO
12	R1_C
13	R2_NO
14	R2_C
15	R3_NO
16	R3_C
17	R4_NO
18	R4_C
19	R5_NO
20	R5_C

ioLogik E1240 (top to bottom)

1	AI0+
2	AI0-
3	AI1+
4	AI1-
5	AI2+
6	AI2-
7	AI3+
8	AI3-
9	AI4+
10	AI4-
11	AI5+
12	AI5-
13	AI6+
14	AI6-
15	AI7+
16	AI7-
17	
18	
19	
20	

ioLogik E1241 (top to bottom)

1	VO0+
2	VO0-
3	IO0+
4	IO0-
5	VO1+
6	VO1-
7	IO1+
8	IO1-
9	VO2+
10	VO2-
11	IO2+
12	IO2-
13	VO3+
14	VO3-
15	IO3+
16	IO3-
17	
18	
19	EX_V
20	EX_C

ioLogik E1242 (top to bottom)

1	AI0+
2	AI0-
3	AI1+
4	AI1-
5	AI2+
6	AI2-
7	AI3+
8	AI3-
9	COM0
10	DI0
11	DI1
12	DI2
13	DI3
14	GND
15	COM1
16	DIO0
17	DIO1
18	DIO2
19	DIO3
20	GND

ioLogik E1260 (top to bottom)

1	EX0
2	IN0+
3	IN0-
4	EX1
5	IN1+
6	IN1-
7	EX2
8	IN2+
9	IN2-
10	EX3
11	IN3+
12	IN3-
13	EX4
14	IN4+
15	IN4-
16	EX5
17	IN5+
18	IN5-
19	
20	

ioLogik E1262 (top to bottom)

1	TC0+
2	TC0-
3	TC1+
4	TC1-
5	TC2+
6	TC2-
7	TC3+
8	TC3-
9	TC4+
10	TC4-
11	TC5+
12	TC5-
13	TC6+
14	TC6-
15	TC7+
16	TC7-
17	
18	
19	
20	

E

FCC Interference Statement

Federal Communication Commission Warning!

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

F

European Community (CE)

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.